

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

In re: Federal Mogul Global, Inc., *et al.*, (Bankruptcy Case No. 01-10578)(RTL)

Debtors.

THE OFFICIAL COMMITTEE OF
ASBESTOS CLAIMANTS and
ERIC D. GREEN, as the
LEGAL REPRESENTATIVE FOR
FUTURE ASBESTOS CLAIMANTS.

Plaintiffs,

V.

Civil Action No. 05-59 JHR

ASBESTOS PROPERTY
DAMAGE COMMITTEE,

Defendant.

[PROPOSED] FINDINGS OF FACT AND CONCLUSIONS OF LAW

This matter comes before the Court as a contested matter on the estimation of the aggregate value of the present pending and expected future asbestos personal injury and wrongful death claims¹ asserted against Turner & Newall Limited, a U.K. company, and its non-U.S. subsidiary companies (collectively “**T&N**”). The Court has reviewed the briefs and supporting materials filed by the Official Committee of Asbestos Claimants and Eric D. Green, as the legal representative for the future asbestos-related personal injury claimants (together the “**Plaintiffs**”) and the Asbestos Property Damage Committee (the “**Defendant**”); has listened to the oral arguments of all interested counsel; has heard and weighed the testimony of fact witnesses and expert witnesses who testified during the Asbestos Claims Estimation Hearing

held over five trial days beginning June 14, 2005; and has considered the exhibits and other evidence admitted into evidence at the hearing. No appearances were made by the Debtors, any of the other Official Committees in the Chapter 11 proceedings, the administrators appointed in the Debtors' U.K. insolvency proceedings (the "**U.K. Administrators**"), the trustees for the T&N Retirement Benefits Scheme (1989) (the "**T&N Pension Trustees**"), or any other U.S. or U.K. creditors.

After due deliberation, the Court hereby makes the following Findings of Fact and Conclusions of Law:

I. FINDINGS OF FACT

A. Trial Testimony

1. The Court heard live testimony from Paul Hanly, Andrea Crichton, Dr. Laura Welch, Barbara Dohmann, Q.C., Dr. Mark Peterson, and Dr. Robin Cantor. The testimony of three witnesses was presented by deposition or from a prior trial: William Hanlon, Michael Lynch, and Dr. Hans Weill.²

2. Paul Hanly was the National Trial and Coordinating Counsel for T&N in the United States from the early 1980s until T&N filed for bankruptcy in October 2001. Hr'g Tr. 47:5-11 (Hanly). He testified about the factual and legal bases of T&N's liability to U.S. personal injury claimants, and its history of litigation and settlement of asbestos personal injury claims in the United States. Mr. Hanly also offered testimony about T&N's past involvement in

¹ All subsequent references to "asbestos personal injury claims" include wrongful death claims as well.

² The parties designated and agreed to admit portions of the deposition testimony taken in this case of Messrs. Hanlon and Lynch. Dr. Hans Weill testified pursuant to an agreement between the parties to admit his prior trial testimony in In re Owens Corning, Case No. 04-CV-905 (D. Del. Jan. 18, 2005) (JPF).

the Asbestos Claims Facility (the “**ACF**”) and the Center for Claims Resolution, Inc. (the “**CCR**”).

3. Andrea Crichton is the U.K. Asbestos Claims Manager for T&N. Hr’g Tr. 142:~~21~~22-~~23~~24 (Crichton). She has assisted T&N’s Group Solicitor (equivalent to general counsel) with all asbestos-related litigation in the United Kingdom since 1985 and has held her current position since 1994. Hr’g Tr. 144:~~45~~-~~49~~20, 142:~~24~~-25-143:1 (Crichton). She testified about T&N’s history of litigation and settlement of asbestos personal injury claims in the United Kingdom.

4. William Hanlon is an attorney and has served as outside counsel for the CCR since 1989. 6/1/05 Hanlon Dep. Tr. 9:6-17. He testified about the operations of the CCR and specifically about T&N’s involvement in the CCR.

5. George Michael Lynch is the Chief Financial Officer for Federal Mogul Corporation and has held this position since 2000. 5/25/05 Lynch Dep. Tr. 10:4-23. Mr. Lynch testified about the company’s budget and cash flow estimates for the payment of asbestos personal injury claims and its financial statement disclosures related to asbestos liability. Mr. Lynch also testified about T&N’s involvement in the CCR and the adverse results T&N suffered as a “stand-alone” defendant in the tort system after the CCR disbanded in early 2001.

6. Dr. Laura Welch is the medical expert for the Plaintiffs and is a physician with extensive experience in the diagnosis and treatment of asbestos-related diseases. Hr’g Tr. 185:~~23~~25-186:~~22~~24 (Welch). She is board certified in both Occupational Medicine and Internal Medicine. Hr’g Tr. 183:~~46~~-184:~~57 (Welch). Dr. Welch testified about issues relating to the epidemiology and diagnosis of asbestos-related diseases and the medical harm suffered by~~

victims of such diseases. She also testified that functional impairment is not required to diagnose a nonmalignant asbestos-related disease. Hr'g Tr. 197:~~43-40~~12 (Welch).

7. Dr. Hans Weill is the medical expert for the Defendant and has 35 years of active involvement in the research and treatment of individuals occupationally exposed to asbestos and other airborne inhalants. 1/18/05 Weill In re Owens Corning Hr'g Tr. 45:17-20. He is an expert in pulmonology and occupational lung disease. 1/18/05 Weill In re Owens Corning Hr'g Tr. at 46:13-14. Dr. Weill also testified about issues relating to the diagnosis and epidemiology of asbestos-related diseases.

8. Barbara Dohmann is a London-based barrister and Queen's Counsel. Hr'g Tr. 329:~~910-25~~330:1 (Dohmann). She has extensive experience in choice of law issues and provided expert testimony concerning what law, under English choice of law principles, would govern the claims of U.S. residents brought against T&N resulting from exposure to T&N asbestos and asbestos-containing products in the United States. Hr'g Tr. 333:~~45-43~~14 (Dohmann).

9. Dr. Mark Peterson is an acknowledged expert in the field of mass tort estimation, including asbestos personal injury claims estimation. Hr'g Tr. 374:~~22~~24-377:~~42~~14 (Peterson). He is the Plaintiffs' asbestos personal injury claims estimation expert and testified as to the fair value of T&N's asbestos personal injury liabilities as of October 1, 2001 (the "**Petition Date**") in the United States and in the United Kingdom.

10. Dr. Robin Cantor is an econometrician and statistician, but does not have substantial experience with asbestos personal injury liability. She is the Defendant's asbestos personal injury claims estimation expert. She testified as to the total net present value of indemnity costs for pending and future claims against T&N in the United States. Dr. Cantor did

not estimate the value of asbestos personal injury claims filed against T&N in the United Kingdom.

B. History of T&N's Involvement with Asbestos-Containing Products

11. T&N is a wholly-owned subsidiary of Federal Mogul Global, Inc. (“**Federal Mogul**”), which was acquired by Federal Mogul in March 1998 when Federal Mogul purchased 100 percent of its stock. T&N was formed by the Turner family and the Newall family in England in 1920. Hr’g Tr. 61:~~17~~18-2021 (Hanly). As early as 1921, T&N knew of the dangers of asbestos and failed to warn or otherwise protect its workers. See Hr’g Tr. 86:910-87:34 (Hanly).

(1) United States Liability

12. T&N’s liability for asbestos personal injury claims in the United States primarily arose out of four areas of its historical businesses: (a) its manufacture and supply of Sprayed Limpet Asbestos (“**Limpet**”); (b) its supply of raw asbestos fiber from 1934 to 1962 to its former subsidiary Keasbey & Mattison Co. (“**Keasbey**”); (c) its brokerage of raw asbestos fiber to companies other than its own subsidiaries; and (d) the manufacture and supply by its U.K. subsidiaries, acting as its agent, of finished products containing asbestos. Hr’g Tr. 53:~~67-12~~13, ~~53:25~~
54:2,1-3, 56:89-11,12, ~~58~~59:251-60:23 (Hanly). The basic cause of action asserted against T&N by asbestos personal injury plaintiffs in the United States was breach of the duty to warn of the dangers caused by its asbestos-containing material. Hr’g Tr. 63:~~22~~23-64:34 (Hanly); PEX 22, ¶ 22 (Hanly Statement of Factual Assumptions).

(a) *Limpet*

13. Limpet, which was invented by T&N in 1931, was distributed throughout the United States from 1934 through 1974. Hr’g Tr. 56:~~45~~16-1718 (Hanly). It was a process of spraying a mixture of asbestos and cement onto surfaces. Limpet was made of pure asbestos – either amosite or crocidolite, but never chrysotile – and it had the greatest asbestos content of any product in the United States. Hr’g Tr. 56:~~17~~18-1920, 56:~~22~~23-57:~~34~~ (Hanly). Limpet was typically used for fireproofing, thermal insulation, acoustical insulation and correction, condensation control, and decorative finishes. See Hr’g Tr. 56:~~12~~13-1516 (Hanly).

14. T&N’s liability in Limpet cases arose from allegations that a plaintiff either was a part of the spraying process, a bystander to the spraying process, or was exposed to the clothes of someone who was heavily exposed on a regular basis to the spraying process. DEX 34 at 32 (Disclosure Statement).

(b) *Keasbey*

15. T&N purchased Keasbey in 1934. Hr’g Tr. 54:~~5~~6 (Hanly). Because of Keasbey’s extensive involvement in the mining, manufacture, and sales of asbestos and asbestos-containing products, Keasbey was known as a “mini Johns-Manville.” Hr’g Tr. 54:~~3~~4, 55:~~22~~23-56:~~3~~4, ~~103:25-104:5~~1-6, 104:~~24~~25-105:~~12~~ (Hanly). Keasbey manufactured and sold throughout the United States between 1934 and 1962 every variety of asbestos-containing product, including Limpet, textiles, insulation, cement pipe, and building materials. Hr’g Tr. 54:~~5~~6-67, 55:~~23~~24-56:~~34~~ (Hanly). In 1962, T&N sold Keasbey’s assets and discontinued Keasbey’s business.

16. In the late 1980s asbestos plaintiffs discovered evidence that T&N was the supplier of raw asbestos fiber to Keasbey and began to assert claims against T&N based on its status as a fiber supplier to Keasbey. Hr’g Tr. 55:~~45~~45-4920 (Hanly). After 1988 or 1989, T&N’s

payments to resolve claims based on exposure to Keasbey's products or asbestos fibers were thus based on T&N's status as a fiber supplier. Hr'g Tr. 55:~~13~~14-~~19~~20 (Hanly).

17. Although prior to the late 1980s some plaintiffs pursued T&N for Keasbey exposures on the theory that it was the legal alter ego of Keasbey and therefore responsible for its products, Hr'g Tr. 54:~~56~~-~~18~~,19, 104:~~1011~~-~~13~~14 (Hanly), very few claims were ever settled based on alter ego or similar theories of liability, and none on such a basis after the 1980s. Hr'g Tr. 54:~~22~~23-55:~~1~~,2, 55:~~13~~14-~~19~~20 (Hanly).

(c) *Fiber Supply*

18. T&N owned asbestos mines and mining interests in southern Africa and Canada. Hr'g Tr. 53:~~78~~-~~9~~10 (Hanly). T&N sold substantial quantities of raw asbestos fiber to companies in the United States, including Johns-Manville. Hr'g Tr. 53:~~89~~-~~10~~11 (Hanly). T&N also used the asbestos fiber it mined in its own manufacture of asbestos-containing products. Hr'g Tr. 53:~~11~~-12-13 (Hanly).

19. T&N was named in asbestos personal injury cases by U.S. plaintiffs who claimed to have been exposed to its asbestos fiber either during the manufacturing process or during the transportation process. Hr'g Tr. 53:~~15~~16-~~18~~19 (Hanly). T&N was also sued by end-users of finished asbestos products manufactured by other companies, on the theory that the fiber in such products was supplied by T&N. Hr'g Tr. 53:~~19~~20-~~21~~22 (Hanly).

20. Although plaintiffs sometimes alleged T&N was responsible for their asbestos injuries based on civil conspiracy or concert of action theories of liability, Hr'g Tr. 57:~~10~~11-~~14~~15 (Hanly), T&N never paid money to settle a claim based on a conspiracy or concert of action theories of liability. Hr'g Tr. 57:~~22~~23-58:45 (Hanly).

21. In the early 1900s, T&N and Manville formed a joint venture, named Turner Manville, Ltd., for the distribution of asbestos-containing products in the United States and United Kingdom. Hr'g Tr. 58:~~89-12~~13 (Hanly). As a result of this joint venture, which still exists, T&N could also be directly liable for exposure to Johns-Manville asbestos-containing products. See Hr'g Tr. 58:~~89-23~~24 (Hanly).

(d) *Supply of finished products by U.K. agency companies*

22. T&N had a number of U.K. subsidiaries which manufactured finished products containing asbestos and marketed them in the United States. These subsidiaries were often named in claims by U.S. claimants. Based on the agency relationship that existed between T&N and these U.K. subsidiaries, T&N determined that the parent was responsible for all claims against any of the T&N U.K. subsidiaries. Hr'g Tr. 59:~~78-60:16~~17 (Hanly). T&N filed a standard affidavit in connection with every Fed. R. Civ. P. 12 or its equivalent motion stating that the defense was being tendered on behalf of T&N (the parent) and the U.K. subsidiaries. Hr'g Tr. 60:~~34-16~~17 (Hanly). When settling claims, T&N never allocated the payments between parent and the particular U.K. subsidiary that had made or sold the asbestos to which the plaintiff was exposed. Hr'g Tr. 59:~~78-60:23~~ (Hanly).

23. Two of the T&N U.K. subsidiaries that were a source of claims were TBA Industrial Products Ltd. and Ferodo U.K. Hr'g Tr. 60:~~17-25,18-61:1, 61:11~~12-2425 (Hanly). TBA Industrial Products Ltd. was named in more than 75 percent of the claims against T&N in the United States Hr'g Tr. ~~61:25-62:6~~1-7 (Hanly). Approximately 1 to 5 percent of the claims filed against T&N in the United States named Ferodo U.K. as the defendant responsible for their injuries. Hr'g Tr. 61:~~67-10~~11 (Hanly).

(2) United Kingdom Liability

24. T&N's liability for the vast majority of asbestos personal injury claims in the United Kingdom was based on negligence/failure to provide a reasonably safe workplace theories and were asserted by T&N employees that had worked in the production and application of T&N's asbestos-containing products. Hr'g Tr. 153:~~45-6,7~~, 160:~~56-24~~25 (Crichton). T&N also faced claims from the families (usually a wife or child) of T&N employees for household exposure; persons living in the vicinity of T&N factories for environmental exposure; and contract workers hired by T&N. Hr'g Tr. 153:~~16~~17-154:~~6~~7 (Crichton). There were also a small number of product liability claims, which were typically brought by employees of small construction companies that used T&N products. Hr'g Tr. 154:~~16~~17-~~24~~25 (Crichton).

C. Asbestos Personal Injury Claims

25. The claims filed against T&N in both the United States and United Kingdom were for a variety of diseases caused by exposure to asbestos, including mesothelioma, lung cancer, and nonmalignant diseases, such as asbestosis and pleural plaques and thickening. Hr'g Tr. 70:~~45-6~~7 (Hanly), 155:~~67-10~~11 (Crichton). In a very small number of U.S. cases, claims were also brought for other cancers caused by asbestos exposure, such as esophageal, pharynx, larynx, colon, and gastrointestinal cancers. Hr'g Tr. 70:~~67-9~~10 (Hanly); see also id. at 173:~~24~~25-174:~~13~~14 (Crichton).

(1) Mesothelioma

26. Mesothelioma is a rare cancer that arises in the pleura (the lining of the lung) or the peritoneum (the lining of the abdomen). The latency period for the disease is usually 30 to 40 years from first exposure, although there is no upper limit. Hr'g Tr. 255:5-10 (Welch); 1/18/05 Weill In re Owens Corning Hr'g Tr. 54:13-24. Mesothelioma is impossible to treat and is usually fatal within 18 months of diagnosis. See PEX 6 at 3 (HSE Dec. 2003 Report). The

only epidemiologically-established cause of mesothelioma is asbestos exposure. Hr'g Tr. 269:6-10 (Welch); see 1/18/05 Weill In re Owens Corning Hr'g Tr. 53:6-19. Mesothelioma is caused by exposure to all types of asbestos and can result from a limited exposure, such as working in a shipyard for a few months or living with a worker exposed to asbestos at work. Though the reason is unknown, many claims involving Limpet were mesothelioma claims. Hr'g Tr. 56:~~19~~20-~~21~~22 (Hanly).

27. The National Cancer Institute's SEER data allows one to compute the number of mesothelioma deaths in the United States each year. Hr'g Tr. 270:6-22 (Welch). According to Drs. Weill and Welch, based on SEER data there are currently about 2,800 new mesothelioma cases in men each year, plus several hundred additional cases in women. ~~6/15/05~~Hr'g Tr. 270:23-271:1 (Welch); 1/18/05 Weill In re Owens Corning Hr'g Tr. 118:15-119:3. The incidence of mesothelioma in the United States has not yet reached its peak, but the rate is slowing. Hr'g Tr. 283:~~13~~14-~~17~~18 (Welch). Even according to Dr. Weill, the Defendant's expert, any perceived decline in mesothelioma incidence rates between the mid 1990s and now is not statistically significant. PEX 62 (Weill Mesothelioma Article at 439); 1/18/05 Weill In re Owens Corning Hr'g Tr. 118-19.

28. In 1982, researchers at Mt. Sinai Hospital in New York published the seminal epidemiological projections of the future incidence of asbestos-related cancers (mesothelioma, lung cancer, and other cancers) in the United States. Nicholson, *et al.*, Occupational Exposure to Asbestos: Population at Risk & Projected Mortality – 1980-2030, AM. J. INDUS. MED. 3:259-311 (1982), PEX 5 (the "**Nicholson Study**"). See Hr'g Tr. 494:14-495:12 (Peterson). Both estimation experts based their projections of future asbestos-related cancer claims to some extent on the mesothelioma projections of Dr. Nicholson, *et al.*, using either the projections as stated in

Dr. Nicholson's original peer-reviewed 1982 paper (PEX 5) or as subsequently modified. The SEER data confirms that Dr. Nicholson's original projections for mesothelioma incidence in the United States have proved to be remarkably accurate over a long period of time. PEX 4 at slide 30 (Peterson Demonstratives); compare PEX 2 at Appendix A-1 (Peterson Nov. 2004 Report, Nicholson Projections) with Hr'g Tr. 270:23-271:1 (Welch testimony that there are 2,800 new cases of mesothelioma each year in the United States in men alone).

29. The Health and Safety Executive of Great Britain ("**HSE**"), which is responsible for the regulation of health and safety risks arising from work activity in Great Britain, published a report predicting the future burden of mesothelioma in Great Britain. See PEX 6 (HSE Dec. 2003 Report). HSE's Epidemiology and Medical Statistics Unit ("**EMSU**") publishes annually the number of deaths and other statistics on mesothelioma in Great Britain. Id. at 3. Based upon the EMSU data, HSE found that the number of mesothelioma deaths in Great Britain has risen fairly constantly over time from 153 deaths in 1968 (the first year for which the data was collected) to 1,848 deaths in 2001. Id. In addition, based on EMSU's data, HSE estimated that the total number of mesothelioma deaths in Great Britain (male and female) is expected to peak at a level of 1,950 to 2,450 during the period 2011 to 2015. Id. at 7.

(2) Lung Cancer

30. Asbestos exposure causes lung cancer. Hr'g Tr. 249:19-21 (Welch). Lung cancer is incurable in 90 percent of cases at the time of diagnosis. Those diagnosed with lung cancer usually die within five years. See Hr'g Tr. 204:~~14~~13-~~16~~18 (Welch). Numerous studies show that there is a dose-response relationship between exposure to asbestos and the risk of lung cancer, with increasing exposure leading to increasing risk of disease. Hr'g Tr. 250:13-14, 251:3-252:24 (Welch); PEX 27 (Helsinki Criteria); PEX 35 (Henderson Study). Workers with

asbestosis have a four-fold increased risk of developing lung cancer than asbestos-exposed workers without asbestosis. Hr'g Tr. 203:~~22~~24-204:~~10~~12 (Welch); 1/18/05 Weill In re Owens Corning Hr'g Tr. 102:14-25. However, a diagnosis of asbestosis is not a necessary intermediary for development of asbestos-related lung cancer. Hr'g Tr. 249:22-250:9 (Welch); PEX 27 (Helsinki Criteria); see also Hr'g Tr. 84:~~13~~14-~~25~~85:1 (Hanly).

(3) Nonmalignant Diseases

31. The pleura is a thin lining that surrounds the lung. There are two pleural layers, one on the chest wall and one on the lung. The pleura allows the lung to expand easily inside the chest wall. When asbestos fibers are breathed into the lung, they are transported to the outside of the lung into the pleural space. This causes scars to form in the pleural lining. When these scars reach a certain size they are visible on chest x-rays. A majority of persons with heavy exposure to asbestos develop some kind of pleural scarring. Pleural scars are described as pleural plaques, pleural thickening, diffuse pleural thickening, pleural fibrosis, and pleural asbestosis. Most pleural scars alone do not cause enough loss of lung function to cause a disability, but even a small loss may be significant if combined with other impairments. Some types of pleural scarring do cause a significant loss of lung function. Hr'g Tr. 203:~~16~~18-~~25~~204:2 (Welch).

32. Asbestosis, also known as parenchymal asbestosis or pulmonary asbestosis, occurs when asbestos exposure causes scar formation in the substance of the lung itself. These scars interfere with lung function because they block the transport of oxygen from the air in the lungs into the blood vessels that travel through the lungs. Oxygen can only cross the membranes if they are thin; asbestosis causes them to thicken. Asbestosis also makes the lungs stiffer, which results in a decrease in lung volume and an increase in the energy needed for chest expansion. As a general rule, the greater the exposure to asbestos the more likely the disease is to be present and the more severe the scarring. Some people's bodies form scars more readily than others, so there is also a range in the severity of the disease after similar levels of exposure to asbestos. PEX 24 at 7 (Welch Report).

33. Both medical experts testified that functional impairment is not required for a diagnosis of asbestos-related nonmalignant disease such as asbestosis. Hr'g Tr. 197:~~13~~13-~~10~~12

(Welch); 1/18/05 Weill In re Owens Corning Hr'g Tr. 61:11-13, 101:16-19. The 2004 American Thoracic Society Statement on the Diagnosis and Initial Management of Nonmalignant Diseases Related to Asbestos, PEX 25 (the "**2004 ATS Statement**"), which provides medical personnel with guidelines for diagnosing nonmalignant asbestos-related diseases, also acknowledges that asbestos can cause real harm without functional impairment. PEX 25 at 691 (2004 ATS Statement); Hr'g Tr. 199:~~13~~-~~40~~12 (Welch). Specifically, the 2004 ATS Statement provides:

Demonstration of functional impairment is not required for diagnosis of nonmalignant asbestos-related disease, but where present should be documented as part of the complete evaluation.

PEX at 691 (2004 ATS Statement); see also Hr'g Tr. 199:~~79~~-200:~~43~~ (Welch).

34. Although nonmalignant asbestos diseases cannot be cured, persons who are diagnosed with them should receive annual medical evaluations that include x-rays and pulmonary function tests. Hr'g Tr. 205:~~46~~-206:~~13~~ (Welch). Dr. Welch testified that these tests cost a patient about \$800-\$1,000 per year. Hr'g Tr. 205:~~23~~25-206:~~43~~ (Welch).

35. Both medical experts testified that asbestosis can exist even when a person has a normal chest x-ray on an ILO scale. Hr'g Tr. 201:~~14~~16-202:~~57~~5 (Welch); 1/18/05 Weill In re Owens Corning Hr'g Tr. 75:7-13, 101:20-22; see also Hr'g Tr. 202:~~68~~-~~9~~11 (Welch); PEX 30 (Kippen Study). The 2004 ATS Statement reports that, among individuals with asbestosis confirmed by histopathologic findings, 15 to 20 percent had no radiographic evidence of parenchymal fibrosis. PEX 25 at 696 (2004 ATS Statement); see also Hr'g Tr. 202:~~40~~12-~~25~~203:2 (Welch). Similarly, the 2004 ATS Statement reports that studies of large cohorts have shown a significant reduction in lung function attributable to pleural plaques, averaging about 5 percent of FVC, even when there is no radiographic evidence of asbestosis. PEX 25 at 705 (2004 ATS Statement).

36. Like mesothelioma, asbestos-related nonmalignant diseases have very long latency periods; the median latency period for such disease is 30 to 40 years after first exposure to asbestos. See 1/18/05 Weill In re Owens Corning Hr'g Tr. 106:6-12. The incidence and prevalence of asbestosis is still increasing. See Hr'g Tr. 261:8-17 (Welch). According to the most recent government data, asbestosis deaths and hospital discharge diagnoses of asbestosis consistently rose over the decade 1990-2000, reaching a high of 20,000 asbestosis-related hospitalizations in the year 2000. PEX 33 at 3-4, 15 (CDC/NIOSH Report); see also Hr'g Tr. 259:4-261:7 (Welch).

D. Turner & Newall's Litigation History

(1) United States

37. Paul Hanly and his law firms were the primary outside defense counsel for T&N in the United States asbestos personal injury litigation for over 20 years, from 1982 until T&N filed for bankruptcy protection in late 2001. Hr'g Tr. 47:6-11 (Hanly). The Court finds Mr. Hanly to be a credible witness; his testimony is corroborated by the testimony of Messrs. Hanlon and Lynch and was essentially unrebutted by the Defendant.

(a) *Pre-1985*

38. T&N was named in its first asbestos personal injury case in the United States in August 1977. Hr'g Tr. 47:6 (Hanly). Before 1985, T&N was a less prominent defendant in asbestos litigation. During this period, T&N was a "stand-alone" defendant and paid low dollar amounts to resolve claims. Hr'g Tr. 51:8-16 (Hanly). T&N's general strategy was to settle legitimate claims for the lowest amount possible in order avoid the risks associated with litigation. Hr'g Tr. 65:2-~~3,4~~, 65:~~24~~25-66:~~23~~ (Hanly). In particular, jury verdicts tended to be high because the cases brought against T&N typically alleged serious injuries (mesothelioma or

lung cancer); Limpet had a very high asbestos fiber content; and the documents regarding T&N's early corporate knowledge concerning the hazards of asbestos exposure made establishing liability for failure of the duty to warn very easy. Hr'g Tr. 85:20-87:3 (Hanly); see, e.g., PEX 7 (1931 T&N corporate document).

(b) Asbestos Claims Facility

39. In June 1985, T&N joined the ACF, a consortium of asbestos defendants and their insurers intended to reduce litigation expenses and achieve lower settlements costs. Hr'g Tr. 49:6-10 (Hanly). ACF was the defense claims handling organization that preceded the CCR. Hr'g Tr. 49:6-12 (Hanly). After only a few years, internal disputes arose and the ACF was dissolved. Hr'g Tr. 49:22-23 (Hanly).

(c) Center for Claims Resolution, Inc.

40. In 1988, following the collapse of the ACF, T&N joined the CCR. Hr'g Tr. 49:22-24 (Hanly). All of the CCR members were former members of the ACF. See Hr'g Tr. 50:6-10 (Hanly); 6/1/05 Hanlon Dep. Tr. 15:21-24. Similar to the ACF, the CCR sought to minimize the expense of litigation and increase its members overall bargaining power with plaintiffs. Hr'g Tr. 50:10-12 (Hanly). Initially, the CCR was an "all pay" regime whereby each member paid a portion of the claim that was either settled or went to verdict, regardless of whether a particular member was named, so long as at least one member was named. Hr'g Tr. 68:~~23~~24-69:~~5~~6 (Hanly).

41. In 1991, the CCR became a named-party only regime (only those members named in a complaint paid). Hr'g Tr. 74:~~78~~13~~14~~ (Hanly); 6/1/05 Hanlon Dep. Tr. 32:19-33:6. Under the named-party only regime, the cost for each settled claim was divided among the CCR members named in the lawsuit based on "share allocations," which were assigned to each

member based upon the alleged occupational category or jobsite. Hr'g Tr. 73:~~78-21~~22 (Hanly); 6/1/05 Hanlon Dep. Tr. 36:13-37:1. The share allocations were calculated based upon the past settlement averages of each member as well as the production and sales history of each member, including the types of asbestos-containing products sold by a particular member, where the products were sold, and how the products were used. See Hr'g Tr. 75:~~41~~12-76:~~23~~ (Hanly); 6/1/05 Hanlon Dep. Tr. 37:3-10, 124:17-128:20. The underlying purpose of the share allocations was to provide a fair sharing of costs for each asbestos personal injury complaint that reflected the relative liability of each CCR member. Hr'g Tr. 76:~~34-9~~10 (Hanly); 6/1/05 Hanlon Dep. Tr. 40:13-24. Share allocations were adjusted fairly regularly and each member could petition for share review. Hr'g Tr. 74:~~14~~15-75:~~10~~11 (Hanly). There was a formalized process for share allocation changes provided for in the CCR Producer Agreement and an outside law firm managed the share allocation adjustment process. Hr'g Tr. 74:~~14~~15-76:~~23~~ (Hanly); PEX 3 (CCR Producer Agreement); 6/1/05 Hanlon Dep. Tr. 38:16-39:11.

42. Before paying a claim, the CCR required evidence of asbestos-related disease and proof of exposure to the asbestos-containing product of at least one CCR defendant-member named in the plaintiff's complaint. See Hr'g Tr. 68:~~12~~13-1718 (Hanly); 6/1/05 Hanlon Dep. Tr. 108:17-110:9; see, e.g., PEX 52 (February 2000 Settlement Agreement). The evidence requirements for settlement varied by jurisdiction and settlement agreement, but in general these two basic settlement requirements remained constant. See Hr'g Tr. 69:~~19~~20-2425 (Hanly); see also PEX 20 (Sept. 1998 Settlement Agreement); PEX 52 (February 2000 Settlement Agreement). Although some settlement agreements paid more money to claimants who could show lung function decline on pulmonary function tests, such tests were not required to establish

an asbestos-related disease in the tort system. 6/1/05 Hanlon Dep. Tr. 73:23-74:19; see also Hr'g Tr. 85:~~16~~17-~~19~~20 (Hanly).

43. Claims with the requisite evidence of exposure to the product of at least one CCR member did not require additional proof of exposure to each and every defendants' products before the CCR attempted to settle the case with the plaintiff. See 6/1/05 Hanlon Dep. Tr. 28:8-29:6. Instead, the CCR would attempt to settle with the claimant for an aggregate dollar figure that represented the total liability of all CCR members named in the case (the "**CCR Settlement Payment**"). 6/1/05 Hanlon Dep. Tr. 28:8-29:6. If there was a settlement, then each CCR member named in the lawsuit would contribute its share allocation of the CCR Settlement Payment for that claim. 6/1/05 Hanlon Dep. Tr. 29:21-30:7.

44. This policy of "cross-subsidization" in which all CCR members that were named in a lawsuit paid into the settlement of that claim (whether or not the plaintiff had yet provided evidence of exposure to the products of that member) was designed to allocate fairly overall the costs of claims in proportion to the CCR defendant's liability. The CCR chose not to require evidence of exposures to products of every CCR member that a claimant named in his/her lawsuit because the CCR did not want to undertake an expensive and internally divisive determination and then assess evidence about the relative responsibility among its members. As a result of this policy, T&N probably paid some claimants it would not have paid if it had remained outside the CCR, i.e., claims for which T&N was named in a lawsuit but the plaintiff may not have had sufficient evidence of T&N's liability. But in turn, T&N paid far less on average toward each settled claim because other members contributed to the settlement of claims for which T&N would have liability even in cases where those other members might have paid nothing if they had remained outside of the CCR; and T&N paid far less in the aggregate because

the cost savings and reduced settlement amounts more than offset the cost of paying claims T&N would not have paid outside the CCR. See Hr’g Tr. 77:~~13~~14-78:~~14~~15 (Hanly); PEX 22, ¶ 5. CCR members believed that this cross-subsidization policy netted out, reflecting approximately what each member would have paid had contribution issues been thoroughly pursued, but it resulted in every member paying lower amounts in settlement, both on a case-by-case basis and in the aggregate, than they would have paid had they remained outside the CCR. Hr’g Tr. 77:~~78~~-78:~~14~~15 (Hanly); PEX 22, ¶ 5.

45. In 1993, T&N and the other CCR members attempted to resolve their present and future liabilities to asbestos personal injury claimants through a class action settlement (the “**Georgine class action**”). Hr’g Tr. 66:~~89~~25~~67~~1 (Hanly); see Georgine v. Amchem Prods., Inc., 157 F.R.D. 246 (E.D. Pa. 1994). The class action settlement was filed in the Eastern District of Pennsylvania under Fed. R. Civ. P. 23. Georgine, 157 F.R.D. at 246. The concept was to create a class action mechanism by which all future asbestos personal injury claims filed against any CCR member would be resolved pursuant to the criteria set forth in the class action settlement agreement. Hr’g Tr. 66:~~13~~14-~~23~~24 (Hanly). As part of the class action proceeding, the district court entered an injunction prohibiting new claims from being filed against T&N. Hr’g Tr. 67:~~12~~13-~~20~~21 (Hanly) see also Carlough v. Amchem Prods., Inc. (sub nom Georgine v. Amchem Prods., Inc.), 1993 WL 144901 (E.D. Pa. May 5, 1993).

46. The Georgine class action settlement was approved by the district court. Georgine, 157 F.R.D. at 315, 337-38. The settlement was appealed to the Third Circuit and the court exercised pendant appellate jurisdiction to review class certification. Georgine v. Amchem Prods., Inc., 83 F.3d 610 (3rd Cir. 1996). The Third Circuit reversed the class certification. Id.

at 617, 634. The Supreme Court affirmed the Third Circuit's decision and vacated the injunction in June 1997. Georgine v. Amchem Prods., Inc., 521 U.S. 591, 629 (1997).

47. Following the Supreme Court's decision in June 1997 and the vacating of the injunction, the CCR member defendants received large numbers of new claims, resulting from the build-up of unfiled claims during the four years the injunction was in effect. Hr'g Tr. 67:~~24~~25-68:~~6~~7, 105:~~23~~24-106:~~5~~6 (Hanly); 6/1/05 Hanlon Dep. Tr. 79:9-13. In order to deal with the influx of new cases, the CCR implemented the Strategic Settlement Program (the "SSP"). 6/1/05 Hanlon Dep. Tr. 86:11-87:3. Under the SSP, cases were settled in large groups for the lowest amounts CCR could negotiate. 6/1/05 Hanlon Dep. Tr. 86:11-87:3. Notwithstanding this approach, T&N's settlement averages for mesothelioma continued to rise from \$43,000 in 1997 to over \$80,000 in 2000. PEX 4 at slide 9 (Peterson Demonstratives); DEX 2 at 18 (Cantor Supplemental Report).

48. In January 2001, T&N left the CCR for a number of reasons, including: its share had dramatically increased, the number of members had decreased (declining from 20 members to 10), and it was clear the CCR was crumbling as members were defaulting or filing bankruptcy (and T&N had to pay others' shares). Hr'g Tr. 78:~~15~~16-79:~~1~~2 (Hanly); see also Hr'g Tr. 106:~~15~~16-~~25~~107:1, 107:~~9~~10-~~21~~22 (Hanly). Mr. Lynch also testified that by changing strategies and leaving the CCR in 2001, Federal Mogul hoped to reduce the amount of cash it paid out to resolve asbestos personal injury claims. 5/25/05 Lynch Dep. Tr. 32:11-33:23. Subsequent events proved that Mr. Lynch's initial expectation was unrealistic and unachievable.

(d) *Post-CCR*

49. After leaving the CCR, T&N became a more prominent asbestos defendant. T&N could no longer share the costs of settling claims with other CCR members and was no longer

protected by the relative obscurity it had maintained as one of 20 members of the CCR defense consortium. See Hr'g Tr. 77:~~13~~14-78:~~14~~15 (Hanly). In addition, the timing of T&N's departure from the CCR coincided with bankruptcy filings of a number of major asbestos defendants, which left T&N as one of the remaining available targets. See Hr'g Tr. 77:~~13~~14-78:~~14~~15 (Hanly).

50. T&N found itself facing tens of thousands of new claims with many cancer claims fast approaching a trial date. It tried to verdict several mesothelioma claims with disastrous results. Nonetheless, T&N followed two basic requirements for paying a settlement to any plaintiff: (a) evidence sufficient to survive a motion for summary judgment of exposure to a T&N or Keasbey asbestos-containing product, or to the asbestos fiber supplied by T&N; and (b) evidence of a disease or condition caused by asbestos exposure (mesothelioma, lung cancer, certain other cancers, and nonmalignant conditions). Hr'g Tr. 79:~~9~~10-~~16~~17 (Hanly).

51. Despite the large volume of cases pending against it, T&N was able to defend itself and to distinguish strong from weak cases. Hr'g Tr. 83:~~23~~24-84:~~12~~13 (Hanly). Indeed, Mr. Hanly testified that mass consolidations resulted in lower per case averages. Hr'g Tr. 81:~~13~~14-~~20~~21 (Hanly). Among the factors affecting settlement values were the severity of the plaintiff's disease, strength of exposure evidence, strength of medical evidence, identity of plaintiff's doctor supplying the diagnosis, identity of plaintiff's counsel; jurisdiction where the case was pending, ability of the plaintiff to obtain a trial date, the plaintiff's economic damages, and the history of asbestos defendants in the same jurisdiction Hr'g Tr. 79:~~17~~18-80:~~22~~23, 92:~~18~~19-~~24~~25 (Hanly). T&N was aware that some doctors' medical evidence was less credible than others in nonmalignant cases and took this into account in the values it would pay in settling a nonmalignant claim. Hr'g Tr. 80:~~8~~9-~~18~~19 (Hanly).

52. The amounts T&N paid in settlement to resolve claims against it (both as a stand-alone defendant and in the CCR) were amounts that included only its own several share of the liability; T&N's payments did not include the share a plaintiff might recover from other defendants. Hr'g Tr. 76:34-77:67 (Hanly).

53. Mr. Hanly also testified that the T&N settlement amounts did not contain a punitive damages component because "we priced cases . . . based on the strength of the product exposure evidence, the competence of the plaintiff's lawyer and, most importantly, or equally importantly, the significance or severity of the asbestos-related disease." Hr'g Tr. 92:1314-24,25, 102:67-1415 (Hanly); see also Hr'g Tr. 137:1314-2425 (Hanly). Indeed, there was only one punitive damages verdict against T&N in its entire history, which was returned in March 2001. Hr'g Tr. 92:23-910 (Hanly). The resulting judgment was bonded and paid in 2004 and was not even contained in the T&N claims database from which the experts made their projections. Hr'g Tr. 92:78-910 (Hanly).

54. After leaving the CCR, T&N experienced a significant increase in the number of asbestos personal injury claims asserted against it and a sharp rise in its mesothelioma and lung cancer settlement costs. Hr'g Tr. 79:23-9, 81:2422-82:9,10, 139:1718-2324 (Hanly); see also Hr'g Tr. 97:1819-2425 (Hanly); PEX 4 at slide 9 (Peterson Demonstratives); Hr'g Tr. 406:64-1215 (Peterson). Mr. Lynch testified that T&N's experience as a stand-alone defendant after it left the CCR was a "nightmare." 5/25/05 Lynch Dep. Tr. 97:14-19. In the short period of time following leaving the CCR and before filing for bankruptcy, T&N resolved few nonmalignant claims (most in one settlement of 10,700 premises liability claims pending in Mississippi for \$300 each), but largely focused on resolving the more serious mesothelioma claims. Hr'g Tr. 83:23-1011 (Hanly). Mr. Hanly testified that the settlement values achieved in the nonmalignant

cases were not sustainable and that he believed they would only increase. Hr'g Tr. 83:~~11~~12-~~16~~17 (Hanly). Indeed, by the end of 2001 Mr. Hanly had concluded that T&N's asbestos liability had increased greatly from what it had been as a CCR member. Hr'g Tr. ~~92:25~~-93:~~6~~1-7 (Hanly). The rising number of claims and settlement values ultimately caused T&N and the Federal Mogul group of companies to file for relief under the Bankruptcy Code. See Hr'g Tr. 83:~~11~~12-~~16~~17 (Hanly).

(2) United Kingdom

55. Due to significant differences in claiming behavior and the costs involved in litigating products liability lawsuits in the U.S. and U.K. courts, as well as the significantly lower population in the United Kingdom, T&N has historically been named in far fewer cases in the United Kingdom than in the United States. T&N rarely went to trial in the United Kingdom. Hr'g Tr. 151:~~16~~17-152:~~10~~11 (Crichton). Ms. Crichton testified that for the vast majority of claims in the United Kingdom, as in the United States, T&N had no defense and therefore T&N's policy was to settle legitimate claims as quickly as possible. Hr'g Tr. 152:~~9~~10-10,11, 156:~~10-11~~12 (Crichton). Overall, T&N was the primary asbestos personal injury defendant in the United Kingdom. Hr'g Tr. 167:~~67~~-~~10~~11 (Crichton).

56. Under U.K. law, employers owe a non-delegable duty to their employees, including the duty to provide a reasonably safe work environment. This was the basis upon which most U.K. claims were brought. Hr'g Tr. 160:~~14~~15-161:~~34~~ (Crichton). Ms. Crichton testified that it was not difficult for a claimant, who was typically a T&N employee, to prove that T&N breached its duty towards the claimant. Hr'g Tr. 160:~~56~~-~~13~~14 (Crichton). To prevail in a products liability action in the United Kingdom, claimants had to prove the elements of breach of the duty to warn, causation, and harm. Hr'g Tr. ~~160:25~~-161:~~3~~1-4, 164:~~56~~-~~8~~9 (Crichton).

57. In order to be compensated by T&N, claimants had to establish that they had a disease caused by asbestos exposure and that they were exposed to asbestos dust through fault of T&N. Hr'g Tr. 159:~~14~~15-~~21~~22, 162:~~67~~-~~19~~20 (Crichton). For employee claims, exposure was typically established through T&N's employment records simply by proving that the employee worked in a particular occupation or at a particular jobsite during a time that T&N knew asbestos exposure was likely. Hr'g Tr. 162:~~9~~10-~~19~~20 (Crichton). For non-employee claims, exposure was often established by the statement of the claimant, the statement of a colleague, or T&N's corporate documents. Hr'g Tr. 162:~~24~~25-163:~~11~~12, 163:~~20~~21-164:~~4~~5 (Crichton). In cases where defendants other than T&N were partly responsible for the claimant's exposure to asbestos, liability would be apportioned among the responsible defendants based on the proportional amount of time the employee worked for each defendant or around each defendant's asbestos operations. Hr'g Tr. 167:~~21~~22-168:~~5~~6, 168:~~18~~19-169:~~5~~6 (Crichton).

58. To prove the presence of disease, the claimant had to provide a report from a doctor who specialized in asbestos diseases stating that the claimant had a disease caused by exposure to asbestos. Hr'g Tr. 164:~~9~~10-165:~~11~~12 (Crichton). T&N did not require any particular pulmonary function test score to settle a nonmalignant disease claim, but if the claimant had a measurable lung function decline T&N would pay more to settle the claim. Hr'g Tr. 169:~~67~~-~~21~~22 (Crichton). For U.K. lung cancer claims, although T&N would generally require a diagnosis of underlying asbestosis, if the plaintiff came forward with medical evidence stating that the medical doctor attributed the lung cancer to asbestos exposure even though asbestosis was not present, T&N would usually accept such proof. Hr'g Tr. 165:~~34~~-~~11~~12 (Crichton).

E. English Law

59. Barbara Dohmann Q.C. is a barrister at the Bar of England and Wales and a member of Blackstone Chambers, which is a leading set of barristers chambers at the London Bar. Hr'g Tr. 326:~~20~~21-~~22~~23 (Dohmann); PEX 37 at 27 (Dohmann Curriculum Vitae). She was called to the Bar in 1971 and appointed Queen's Counsel in 1987. Hr'g Tr. 329:~~9~~10-~~25~~330:1 (Dohmann); PEX 37 at 27 (Dohmann Curriculum Vitae). Ms. Dohmann has experience in a wide variety of areas of civil law, though her principal practice is in commercial law, which includes banking, insurance, reinsurance, and financial services. As part of her practice she frequently addresses questions of international conflicts of law and jurisdiction. Hr'g Tr. 333:~~4~~5-~~13~~14 (Dohmann). Ms. Dohmann appears regularly in the Appellate Courts, High Court (in both the Chancery Division and the Commercial Court, Queen's Bench Division), in arbitrations (as both Arbitrator and Counsel), and before regulatory and disciplinary tribunals. Ms. Dohmann provided expert testimony as to the choice of law for liability and for damages that would apply if T&N's asbestos personal injury liability for claims based on events in the United States were considered by an English court.

60. On questions of liability, the choice of law applicable to U.S. T&N asbestos personal injury claims is governed by either the statutory provisions of the Private International Law (Miscellaneous Provisions) Act 1995 (the "**1995 Act**") or common law, although in the context of the U.S. claims against T&N the distinction will make no practical difference. For T&N asbestos personal injury claims in which both the exposure to T&N asbestos and the manifestation of an asbestos-related disease took place after May 1, 1996, the 1995 Act determines the applicable choice of law. Hr'g Tr. 342:~~19~~20-343:~~1~~2 (Dohmann). Under the 1995 Act, the general rule is that the applicable law for substantive issues is the law of the place where the victim was located when the injury was sustained. Thus, for asbestos personal injury claims

in which both the exposure to T&N asbestos occurred in the United States and resulted in a personal injury claim against T&N after May 1, 1996, U.S. substantive laws would be applied by English courts.

61. For claims in which both exposure to T&N asbestos and the occurrence of an asbestos-related disease occurred prior to May 1, 1996, English common law applies to the choice of law analysis. Under English common law, the cause of action for these claims would be considered to have arisen in the United States. See Hr’g Tr. 339:~~24~~25-340:~~34~~ (Dohmann). Under Boys v. Chaplin, [1971] AC 356, which governs the choice of law when the cause of action arises outside of England, for an English court to apply foreign law to determine validity of foreign claims the claims must satisfy the rule of “double actionability” whereby the conduct complained of must be actionable as a tort according to English domestic law and must give rise to civil liability under the laws of the foreign jurisdiction (here, the United States), though the cause of action need not be defined in identical terms. See Hr’g Tr. 340:~~45~~45~~16~~ (Dohmann). In order to satisfy the double actionability rule, the nature of the asbestos claims and causes of action asserted against T&N in the United States must be reviewed in order to determine whether claims with exposure to T&N asbestos and evidence of asbestos-related disease are actionable in both the United States and the United Kingdom.

62. Based on the testimony of Mr. Hanly and Ms. Crichton, it is clear that the basic causes of action asserted in asbestos personal injury claims and the nature of the proof required to establish liability are essentially the same in the United States and the United Kingdom. In both jurisdictions the causes of actions require proof of some fault or negligence on the part of T&N; evidence to prove an asbestos-related disease such as mesothelioma, lung cancer, asbestosis, or pleural disease; and exposure to the asbestos or asbestos-containing products of T&N. Hr’g Tr.

340:~~16~~17-341:~~17~~18 (Dohmann); see also Hr'g Tr. 63:~~22~~23-64:~~10~~11 (Hanly); 161:1-4, 160:15-25-161:3, 160:14-24, 160:25-161:3 (Crichton).

63. Based upon this factual predicate, Ms. Dohmann testified that the asbestos personal injury claims being asserted against T&N in the United States as described by Mr. Hanly would satisfy the double actionability requirement and that therefore a U.K. court would apply the law of the relevant U.S. jurisdiction to determine T&N's liability for asbestos claims asserted against it based upon exposure and injury that occurred in the United States. Hr'g Tr. 340:~~16~~17-341:~~17~~18 (Dohmann).

64. Although it is unclear under English law whether the 1995 Act or common law would apply to claims in which exposure to T&N asbestos occurred prior to May 1, 1996 and the asbestos-related disease manifested after May 1, 1996, in either case, as discussed above, the circumstances of the claims would be sufficient to give rise to liability in English courts. See Hr'g Tr. 342:~~13~~14-343:~~89~~ (Dohmann).

65. The Court accepts Ms. Dohmann's testimony and finds that a Court in the United Kingdom would apply the law of the relevant U.S. jurisdiction to determine T&N's liability for asbestos claims asserted against it based upon exposure and injury which occurred in the United States. Of course, this determination is for the purposes of this proceeding and the pending U.S. bankruptcy proceedings and the interpretation of U.K. law for purposes of the U.K. proceedings is a matter for the U.K. courts.

66. It is a basic principle of English law that matters of procedure are governed by the law of the forum. Traditionally, it has been understood in England, on the basis of the judgments of the House of Lords in Boys v. Chaplin that quantification of damages is a procedural matter, and therefore governed by the law of the forum – i.e., English domestic law. Hr'g Tr. 343:~~9~~10-

344:~~7~~8 (Dohmann). The 1995 Act did not explicitly change this. However, in 2004, Harding v. Wealands [2004] EWCA Civ 1735, the Court of Appeal called into question the traditional notion that quantification of damages should be considered a matter of procedure. In that case, which was subject to the 1995 Act, the Court of Appeal decided that a statutory cap on damages under the foreign law governing the tort was a substantive matter and therefore ought to be applied rather than the law of the forum. Hr'g Tr. 345:~~6~~7-~~19~~20 (Dohmann). The Court of Appeal gave leave to appeal to the House of Lords (the equivalent of the U.S. Supreme Court) and, in the ordinary course Harding is expected to be heard by the House of Lords in the latter half of 2005. Hr'g Tr. 347:~~17~~18-348:~~2~~3 (Dohmann). In view of the substantial criticism of the common law quantification of damages rule over the years, Ms. Dohmann testified that the House of Lords is expected to affirm the decision in the Harding case and may well reconsider the common law rule as well. Hr'g Tr. 348:~~21~~22-349:~~9~~10; 353:~~21~~23-354:~~10~~12 (Dohmann). If the House of Lords does not reconsider the common law question in Harding, Ms. Dohmann expressed the view that the questions will have to be reconsidered by the House of Lords in the T&N case when the question is presented by the U.K. Administrators or others parties in the United Kingdom as part of the U.K. insolvency proceedings. Hr'g Tr. 353:~~13~~15-354:~~10~~12 (Dohmann).

67. Ms. Dohmann gave several reasons for her opinion that the House of Lords would ultimately determine that a U.K. court should apply U.S. law to the quantification of damages question presented by the asbestos personal injury claims arising against T&N in the United States. Firstly, the House of Lords has demonstrated its willingness to overturn established rules of procedural law where those rules are outdated or would result in injustice. In Miliangos v. George Frank Ltd. [1976] AC 443, the House of Lords discarded the then-well-settled rule that,

as a matter of procedure and therefore of forum law, an English court could give judgments only in pounds sterling. The sterling rule, it was observed, had – because of exchange rate fluctuations – become a source of injustice where a claim arose in another country. Id. Similarly, two recent decisions by Australia’s highest court, whose rulings are persuasive although not binding authority in English courts, stand for the proposition that the quantification of damages should be governed by the same law that governs liability. Régie Nationale des Usines Renault SA v. Zhang, (2003) 210 CLR 491; John Pfeiffer Pty. Ltd. v. Rogerson, (2000) 203 CLR 503; see also Hr’g Tr. 352:~~18~~20-353:~~6~~8 (Dohmann). In addition, the Council of the European Union has issued draft choice of law regulations which provide as a general rule that the law applicable to a tort or delict shall be the law of the country in which the damage occurs, and that the nature and assessment of damages will also be assessed according to the law of the country in which the damage occurs. Hr’g Tr. 349:~~20~~21-351:~~22~~24 (Dohmann). Although these regulations are still in draft form, and subject to further comment, Ms. Dohmann expressed the opinion that the approach in the draft regulations reflects “where our law is going.” Hr’g Tr. ~~351:25~~-352:~~3~~1-5; 353:~~19~~21-354:~~10~~12 (Dohmann).

68. This Court accepts that the law governing quantification of damages is in a state of development or transition in England and accepts Ms. Dohmann’s testimony and opinion that the House of Lords will ultimately decide that U.S. claims against T&N would be assessed and quantified, in an English insolvency, under the law of the U.S. jurisdictions where the injuries occurred, not under English law, regardless of whether the causes of action are considered under the 1995 Act or the common law. See Hr’g Tr. 354:~~11~~13-~~14~~16 (Dohmann). As with the choice of law for liability, this determination is for the purposes of this proceeding and the pending U.S.

bankruptcy proceedings and the interpretation of U.K. law for purposes of the U.K. proceedings is a matter for the U.K. courts.

F. Estimates of Liability

69. The estimation experts calculated T&N's aggregate asbestos personal injury liability as the sum of (a) the estimated liability for claims pending but unresolved on the Petition Date plus (b) the present value of the estimated liability for claims that can be expected to be filed in the future. See Hr'g Tr. 409:~~11~~14-~~17~~410:1 (Peterson). Dr. Mark Peterson, the Plaintiffs' estimation expert, estimated the value of T&N asbestos personal injury liability for pending and future claims as of the Petition Date to be \$11 billion in the United States and £229 million in the United Kingdom (approximately \$400 million). Hr'g Tr. 523:5-11, 561:~~25~~69 (Peterson). Dr. Cantor, the Defendant's estimation expert, estimated T&N's asbestos personal injury liability for pending and future claims to be approximately \$2.5 billion in the United States. Hr'g Tr. 879:203 (Cantor). Dr. Cantor did not estimate the value of asbestos personal injury claims filed against T&N in the United Kingdom.

70. The asbestos personal injury estimation experts for the U.K. Administrators, EMB Consultancy LLP ("**EMB**"), and the asbestos personal injury estimation experts for the T&N Pensions Trustee, Tillinghast Towers Perrin ("**Tillinghast**"), prepared reports reviewing a preliminary February 2004 asbestos estimation of Dr. Peterson. See Hr'g Tr. 562:~~14~~8~~11~~ (Peterson). The EMB and Tillinghast reports were entered into evidence only to show that Dr. Peterson considered them and reacted to the comments made by EMB and Tillinghast.³ Hr'g Tr. 564:~~69~~12,~~16~~, ~~564:24~~-~~565:32~~7 (Peterson); see also PEX 14 (Peterson Supplemental Report).

³ EMB's forecast for the United Kingdom was almost identical to Dr. Peterson's and EMB adopted the same assumptions about the Nicholson Study (defined in ¶ 28) as Dr. Peterson. ~~6/16/05~~Hr'g Tr. 562:~~11~~14-~~15~~18 (Peterson). In conducting his review, Dr. Peterson discovered

(1) Dr. Peterson's Testimony

71. Dr. Mark Peterson is a lawyer and behavioral scientist by training who is a nationally recognized expert on the valuation of asbestos personal injury liabilities. Dr. Peterson has experience as an expert witness in bankruptcy estimation proceedings and has projected asbestos personal injury liabilities in other contexts, including for trusts, defendants, insurers, and courts. Dr. Peterson has been recognized as an expert by a court, and his estimation of the number and value of asbestos personal injury claims has been accepted, in numerous cases, including: Eagle-Picher, National Gypsum, Babcock & Wilcox, Armstrong, Western Asbestos, H.K. Porter, E.J. Bartells Co., and Raytech. See, e.g., In re Babcock & Wilcox Co., Case No. 00-10992, slip op. 48, Docket No. 6133 (Bankr. E.D. La. November 9, 2004) (confirming plan of reorganization); In re Armstrong World Industries, Inc., et al., Case No. 00-04471, slip op. 43-44, Docket No. 6255 (Bankr. D. Del. December 19, 2003), rev'd on other grounds, No. 00-4471, 2005 U.S. Dist. LEXIS 2810, at *1 (D. Del. Feb. 23, 2005) (same); In re National Gypsum Co., 257 B.R. 184, 198-99 (Bankr. N.D. Tex. 2000); In re H.K. Porter, Case No. 91-20468, slip op. 3-4, Docket No. 2624 (Bankr. W.D. Pa. June 25, 1998) (same); In re Eagle-Picher Indus., Inc., 189 B.R. 681, 686 (Bankr. S.D. Ohio 1995).

72. As he does in every case, Dr. Peterson started off his asbestos estimation analysis work here by trying to understand in depth what drove the value of claims. He believes that in order to make a credible forecast, one must "appreciate the phenomenon you're studying," which required him to analyze the factors driving settlements in the court system as opposed to simply

that, on the whole, EMB and Tillinghast agreed with his methodology. See Hr'g Tr. 562:~~46~~19-563:~~21~~24 (Peterson). Both EMB and Tillinghast agreed that the number of future claims against T&N would increase the propensity to sue T&N would increase and circumstances in changed litigation would increase the value of claims. See Hr'g Tr. 562:~~46~~19-563:~~44~~14 (Peterson). In

doing mathematical calculations on data. Hr’g Tr. 365:~~12~~14-~~17~~19 (Peterson). In his testimony, he outlined the following activities as his means to, as he put it, “get dirty with the data”:

- ø consulting with the trustees for asbestos trusts and their staffs,
- ø consulting with asbestos plaintiffs lawyers,
- ø consulting with asbestos defense lawyers,
- ø consulting with other experts,
- ø consulting with and serving as an expert for judges,
- ø reading publications such as Mealeys,
- ø examining financial statements,
- ø speaking with asbestos victims,
- ø speaking with doctors who examine asbestos victims,
- ø speaking with union representatives.

Hr’g Tr. 372:46-374:24 (Peterson).

73. Dr. Peterson’s methodology relies upon data drawn from T&N’s pre-petition claims experience (both within the CCR and afterwards as a “stand-alone” defendant), materials from other asbestos defendants, epidemiological projections of the incidence of asbestos-related cancers, and foreseeable trends and patterns in claiming behavior and settlement costs. See, e.g., Hr’g Tr. 399:~~12~~14-400:~~11~~, 13, 400:~~20~~22-~~13~~, 401:15, 408:~~25~~-~~19~~22 (Peterson). Dr. Peterson made adjustments for changes that can be reasonably expected in the future and for anomalies in historical patterns.

74. To determine the liability for T&N’s pending claims, Dr. Peterson first determined the number of pending claims for each type of alleged disease (mesothelioma, lung

addition, both EMB and Tillinghast included in their estimation methodologies an increasing

cancer, other cancer, and nonmalignant disease) based upon information in the databases maintained by CCR and afterwards by T&N (collectively the “**T&N Databases**”). See Hr’g Tr. 409:24-410:8, 2-12, 410:1922-411:14 (Peterson). Dr. Peterson adjusted this universe of pending claims to account for claims historically resolved without payment and claims that were resolved at a lesser disease level than that originally claimed. Hr’g Tr. 412:414-2124-413:8, 11, 414:1316-415:912 (Peterson). In order to facilitate the estimation, Dr. Peterson also imputed missing information for claims with incomplete information reported in the database, such as disease classification and settlement year. Hr’g Tr. 413:912-415:9, 12, 417:2023-418:1215 (Peterson).

75. To value the pending claims, Dr. Peterson estimated what the average cost to T&N would be for it to resolve each asbestos claim had it not filed for bankruptcy protection. Hr’g Tr. 408:1414-1215; see also id. at 416:9-12-15 (Peterson). Dr. Peterson used the information in the T&N Databases to calculate the historical settlement average for mesothelioma during 2000-2001, the two years immediately preceding the Petition Date (a “**calibration period**”).⁴ Hr’g Tr. 427:13-57 (Peterson); see also id. at 432:13-2, 4. The table below shows Dr. Peterson’s calculation of T&N’s mesothelioma and lung cancer settlement averages for the years 1998-2001:

T&N Trends in Settlement Averages

Year	Mesothelioma	Lung Cancer
1998	\$46,608	\$12,425
1999	\$60,936	\$12,179
2000	\$86,606	\$14,350

propensity to sue. See Hr’g Tr. 563:25-36 (Peterson).

⁴ Because, as Mr. Hanly testified, T&N only paid settlements to resolve its several share of the liability in each case, Hr’g Tr. 76:34-77:6, 7, the database reflects only what T&N paid to resolve its several share of each case, not what a plaintiff receives from all defendants. Hr’g Tr. 416:24-417:9, 2-12 (Peterson).

2001	\$138,939	\$18,956
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PEX 4 at slide 9 (Peterson Demonstratives).

76. Dr. Peterson then considered the average trends in settlement values and the factors driving those trends, such as T&N's increasing cost of settlement payments, T&N's loss of protection as a member of CCR in early 2001, the effect of the bankruptcies of other major defendants on T&N's liability, and the historic ratios of mesothelioma settlement averages to other types of disease claims across multiple defendants. See e.g., Hr'g Tr. 428:~~46~~-430:~~7,9~~, 432:~~11~~13-~~20~~22 (Peterson). Dr. Peterson also discussed T&N's litigation history and the impact of its departure from the CCR with Paul Hanly and his partners. Hr'g Tr. ~~428~~429:~~252~~-430:~~79~~ (Peterson).

77. Based upon all of this information, Dr. Peterson calculated a conservative average settlement value for mesothelioma – which was less than both the settlement average calculated based on the change in mesothelioma settlements values between 1998 and 2001 and the scheduled values in the trust distribution procedures – to use in forecasting T&N's liabilities. Hr'g Tr. 427:~~24~~-428:~~35~~ (Peterson); see also id. at 437:~~19~~21-438:~~7,9~~. After determining the average settlement value for mesothelioma, Dr. Peterson determined the average settlement values for all other diseases using T&N's historic settlement ratios between settlement values for mesothelioma and those for lung cancer, other cancers and nonmalignant claims. Hr'g Tr. 434:~~79~~-~~19~~21, 435:~~15~~17-~~19~~21 (Peterson); PEX 4 at slides 9-22 (Peterson Demonstratives).

78. As part of his ongoing work in the case between the preparation of his original report and his testimony at trial, Dr. Peterson went back and tested his conclusions about T&N's average settlement values against the database. He found that where the settlement year was conclusively stated in the database as 2001 (i.e. without any data imputation issues), the

settlement averages for mesothelioma and lung cancer were \$194,051 and \$29,836, respectively, which were almost exactly the averages he used in his preferred forecast. Hr'g Tr. 433:~~14~~16-440:~~5~~7; PEX 4 at slides 20-21 (Peterson Demonstratives); DEX 92 (Peterson database excerpt). With respect to nonmalignant claims, Dr. Peterson, after consulting with Mr. Hanly, recognized that the claim values that T&N achieved in 2001 were artificially lowered by the 10,700-claim "sick building" settlement from Mississippi. Dr. Peterson testified that the nonmalignant settlement averages without the inclusion of this one large settlement were in excess of \$3,400 per claim and agreed with Mr. Hanly that the nonmalignant settlement averages would rise after 2001 as these claims began to receive trial dates. Thus, Dr. Peterson based his preferred values for nonmalignant claims on the historical ratios among disease settlement averages from T&N's settlement data rather than just the averages achieved in 2001. Hr'g Tr. 393:~~13~~-394:~~22~~,24, 1182:12-15, 1225:14-1226:10 (Peterson).

79. Dr. Peterson then calculated the average claim resolution amount, which is the product of the percent of claims paid in each disease category by the average settlement amount. Hr'g Tr. 442:~~24~~-~~14~~16 (Peterson). The table below sets forth Dr. Peterson's calculation of the average resolution amount:

Dr. Peterson's Calculation of Claims Receiving Payment and Payment Amounts

Disease	Percent Paid	Averages (2001\$)	
		Settlement	Resolution
Mesothelioma	86.6	\$189,036	\$163,711
Lung Cancer	91.4	\$30,246	\$27,630
Other Cancer	94.5	\$13,941	\$13,170
Nonmalignant	94.3	\$6,616	\$6,242

PEX 4 at slide 24 (Peterson Demonstratives).

80. The final calculation to determine T&N's liability for pending claims was for Dr. Peterson to multiply the number of pending claims for each disease category by the average resolution amount for each category. Hr'g Tr. 443:~~68~~⁸-~~12~~¹⁴ (Peterson). This calculation is shown in Dr. Peterson's Demonstrative Slide No. 25, PEX 4 at slide 25 (Peterson Demonstratives), set forth below:

Dr. Peterson's Estimate of Indemnity Amounts (Cost to Pay) for
U.S. Pending Claims (2001\$)

Disease	Number of Claims	Average Resolution	Indemnity (\$millions)
Meso	3,002	\$163,711	\$491.5
Lung	4,891	\$27,630	\$135.2
Othc	2,080	\$13,170	\$27.4
Nonm	119,776	\$6,242	\$747.6
Unsp	4,487	0	0.0
Total	134,236	NA	\$1,402

The product, \$1.4 billion, is the total estimated liability for present pending claims. Hr'g Tr.

443:13 ~~16-14,17, 1820-22~~24 (Peterson).

81. To determine the liability for T&N's future claims, Dr. Peterson first projected the number of likely future cancer claims. This projection was based on the Nicholson Study's projections of the incidence of asbestos-related cancers (mesothelioma, lung cancer, and other cancers), which have proven remarkably accurate based on the SEER data. PEX 5 (the "**Nicholson Study**"); see Hr'g Tr. 494:14 ~~15~~-495:12 (Peterson); PEX 4 at slide 32 (Peterson Demonstratives). Dr. Peterson's projection of the number of T&N's future claims also took into account the trends in the claiming rate for malignant claims against T&N and other defendants, Hr'g Tr. 487:8-14, 487:25-488:3, 494:12-13 (Peterson); and changes in asbestos litigation, including the end of the CCR and the bankruptcies of other major asbestos defendants, Hr'g Tr. 487:14-24 (Peterson).

82. Dr. Peterson then calculated T&N's historic propensity to sue – i.e., the percentage of people who actually filed (or will file) a claim against T&N – by dividing the number of people who actually filed a claim against T&N for asbestos-related cancer in a particular year by the number of asbestos-related cancer deaths predicted by the epidemiological model for that same year. See Hr'g Tr. 490:19-491:8 (Peterson); see also id. at 500:1-4. The

historical propensity to sue T&N was calculated based upon the propensities to sue during the two-year calibration period. Hr’g Tr. 504:6-11 (Peterson). To determine the likely number of asbestos-related cancer claims that will be filed against T&N in years beyond October 2001, Dr. Peterson took the number of asbestos-related cancer deaths projected by the epidemiological model in each future year and multiplied that by the propensity to sue. Hr’g Tr. 503:9-12 (Peterson).

83. Dr. Peterson calculated the projected number of future cancer claims based on two alternate assumptions: (1) a **“Flat Propensity”** projection, which assumed the propensity to sue would remain unchanged in future years and (2) an **“Increasing Propensity”** projection, which assumed that the propensity to sue T&N would increase during 2002 through 2006 in accordance with the observable increasing trend in claim filings observed in the years immediately prior to T&N’s bankruptcy before leveling off thereafter. See Hr’g Tr. 504:6-17, 513:2-8 (Peterson). Dr. Peterson testified that the Increasing Propensity model is a far more plausible estimate and is his preferred projection. Hr’g Tr. 505:18-20, 517:22-518:1 (Peterson). No evidence was offered to show why the observable increasing trend in cancer claims might have declined abruptly in 2002. For both sets of projections, the annual number of future claims projected by Dr. Peterson is lower for each future year with one exception than the annualized number of claims received by T&N in 2001. See Hr’g Tr. 516:13-20, 519:21-24 (Peterson).

84. Unlike the Nicholson Study, there are no epidemiological studies that predict the incidence of nonmalignant asbestos-related disease in the U.S. population. See Hr’g Tr. 491:22-492:1 (Peterson); 1/18/05 Weill In re Owens Corning Hr’g Tr. 105:2-6. Thus, to project the number of future nonmalignant claims against T&N, Dr. Peterson employed an established method and calculated the ratio between the number of cancer claims and the number of

nonmalignant claims filed against T&N in 2000. Hr'g Tr. 492:1-13, 513:12-515:5 (Peterson). He then multiplied this ratio by the number of forecasted future malignant claims in order to project the number of nonmalignant claims for each future year. Hr'g Tr. 514:21-24 (Peterson). To estimate the value of T&N's future claims, Dr. Peterson used the same values he used to value pending claims based on past resolution costs for resolving similar claims, as adjusted for the applicable trends. See Hr'g Tr. 520:9-10 (Peterson).

85. Dr. Peterson's methodology for calculating future claim values results in a year-by-year projection of the claims and resolution costs that T&N would face but for the bankruptcy. 6/15/05 Tr. 518:3-10, 521:19-21 (Peterson); see also id. at 486:21-25. Under his Increasing Propensity projection, T&N will face 1,088,440 future asbestos personal injury claims. His Flat Propensity projection results in 706,779 future claims. PEX 4 at slide 40 (Peterson Demonstratives) (reproduced below).

U.S. T&N Future Claim Forecasts as of October 1, 2001

Filing Year	Increasing Model					No-Increase Model				
	Meso	Lung	Othc	Nonm	Total	Meso	Lung	Othc	Nonm	Total
[2001]	331	430	148	9,264	10,174	331	430	148	9,264	10,174
2002	1,325	1,720	593	37,057	40,694	1,325	1,720	593	37,057	40,694
2003	1,451	1,858	682	41,810	45,801	1,321	1,655	570	36,126	39,672
2004	1,574	1,991	767	46,624	50,956	1,316	1,599	549	35,292	38,756
2005	1,696	2,110	843	51,382	56,031	1,311	1,543	529	34,458	37,841
2006	1,817	2,215	911	56,063	61,006	1,305	1,486	509	33,623	36,923
2007	1,810	2,131	875	54,616	59,432	1,300	1,430	489	32,790	36,009
2008	1,769	2,029	835	52,545	57,178	1,271	1,362	466	31,568	34,667
2009	1,728	1,928	794	50,473	54,923	1,242	1,294	444	30,346	33,326
2010	1,687	1,826	754	48,403	52,670	1,212	1,226	421	29,124	31,983
2011	1,647	1,725	714	46,331	50,417	1,183	1,157	399	27,902	30,641
2012	1,606	1,623	673	44,260	48,162	1,154	1,089	376	26,680	29,299
2013	1,536	1,528	632	41,917	45,613	1,103	1,025	353	25,282	27,763
2014	1,466	1,432	591	39,575	43,064	1,053	961	330	23,883	26,227
2015	1,396	1,337	550	37,232	40,515	1,003	897	307	22,484	24,691
2016	1,326	1,241	509	34,890	37,966	953	833	284	21,086	23,156
2017	1,256	1,146	468	32,547	35,417	903	769	261	19,688	21,621
2018	1,186	1,053	431	30,270	32,940	852	707	240	18,323	20,122
2019	1,115	960	393	27,992	30,460	801	644	220	16,959	18,624
2020	1,044	867	356	25,714	27,981	750	582	199	15,594	17,125
2021	973	774	319	23,437	25,503	699	520	178	14,230	15,627
2022	902	681	282	21,160	23,025	648	457	157	12,866	14,128
2023	832	615	255	19,310	21,012	598	413	142	11,748	12,901
2024	763	549	228	17,461	19,001	548	369	127	10,632	11,676
2025	693	483	200	15,611	16,987	498	324	112	9,514	10,448
2026	623	417	173	13,762	14,975	448	280	97	8,398	9,223
2027	553	351	146	11,914	12,964	398	236	82	7,280	7,996
2028	499	312	130	10,677	11,618	359	210	73	6,528	7,170
2029	447	276	114	9,490	10,327	321	185	64	5,804	6,374
2030	396	242	101	8,394	9,133	285	163	57	5,135	5,640
2031	350	211	87	7,342	7,990	251	141	49	4,494	4,935
2032	306	183	76	6,405	6,970	220	123	42	3,921	4,306
2033	267	172	65	5,717	6,221	192	115	36	3,500	3,843
2034	231	134	56	4,771	5,192	166	90	31	2,923	3,210
2035	200	113	47	4,085	4,445	144	76	26	2,505	2,751
2036	170	94	39	3,442	3,745	122	63	22	2,113	2,320
2037	145	79	32	2,896	3,152	104	53	18	1,779	1,954
2038	121	64	27	2,406	2,618	87	43	15	1,477	1,622
2039	102	51	22	1,987	2,162	73	34	12	1,222	1,341
Total	37,339	36,951	14,918	999,232	1,088,440	27,850	26,304	9,027	643,598	706,779

Note: The entries for 2001 are for one-fourth of a year.

86. Dr. Peterson assumed that future settlements would occur two years after claims are filed. Hr’g Tr. 520:20-21 (Peterson). He applied an inflation rate of 2.5 percent based on an approximation of the historical inflation rates in the U.S. for the last decade. See Hr’g Tr. 521:4-9 (Peterson). Dr. Peterson also applied a “risk-free” rate of return of 5.02 percent in order to

discount the stream of future costs to net present values. See Hr'g Tr. 520:24-521:3 (Peterson). The end result of Dr. Peterson's calculation of the overall net present value of T&N's liability for asbestos personal injury claims (both present and future) to those claimants residing in the United States was \$11 billion based on the Increasing Propensity projection. Hr'g Tr. 523:5-11 (Peterson). It was \$8.2 billion based on the Flat Propensity projection. The summary tables detailing these two estimates are set forth in Slide 44 of Dr. Peterson's Demonstrative Exhibits (PEX 4) (reproduced below):

The Present Value of Pending and Future U.S. Claims Against T&N (millions of dollars)

Model	Claims	Disease				Total
		Meso	Lung	Othc	Nonm	
Increasing	Pending	\$474	\$130	\$26	\$721	\$1,352
Increasing	Future	\$4,324	\$753	\$144	\$4,503	\$9,724
Increasing	All Claims	\$4,798	\$883	\$170	\$5,224	\$11,076
No-Increase	Pending	\$474	\$130	\$26	\$721	\$1,352
No-Increase	Future	\$3,259	\$543	\$89	\$2,944	\$6,835
No-Increase	All Claims	\$3,733	\$673	\$115	\$3,665	\$8,187

87. Dr. Peterson examined the sensitivities in his two estimates by using over 20 alternative assumptions to recalculate T&N's liability for U.S. claims. See Hr'g Tr. 565:69-580:1518 (Peterson). These analyses estimated the consequences of the various assumptions made by Dr. Peterson in his calculation of T&N's liability for asbestos personal injury claims. See Hr'g Tr. 580:4013-4518 (Peterson). When Dr. Peterson used the same discount rate applied by Dr. Cantor, the present value of T&N's estimated liability decreased by approximately five percent. See Hr'g Tr. 569:25-47 (Peterson). When Dr. Peterson disregarded T&N's historical payment history and assumed that only 70 percent of future claims would be paid instead of T&N's historical average of 90 percent, T&N's liability decreased approximately 23 percent. See Hr'g Tr. 568:912-11,14, 575:2023-576:58 (Peterson). Finally, when Dr. Peterson assumed

the passage of nationwide legislation modeled after Ohio's medical criteria legislation for asbestos claims such that 60 percent of nonmalignant claims that received the lowest values received zero compensation with a corresponding ten percent increase in cancer claims, T&N's liability decreased by 2-3 percent. See Hr'g Tr. 569:~~58-21,24~~, 576:~~1821~~-579:~~4416~~ (Peterson).

88. In addition to his sensitivity analyses, Dr. Peterson considered additional factors that could influence his estimation.⁵ These factors include:

- Ø Venue shopping, see Hr'g Tr. 531:~~711~~-532:~~14,15~~, 535:~~710~~-537:~~4718~~ (Peterson);
- Ø Mass screenings, see Hr'g Tr. 537:~~1819~~-539:~~78~~ (Peterson);
- Ø Erroneous x-ray interpretations by suspect B readers, see Hr'g Tr. 539:~~89~~-541:~~2324~~ (Peterson);
- Ø Overpayment to "unimpaired" claimants, see Hr'g Tr. 541:~~2425~~-542:12 (Peterson);
- Ø Mass consolidations and group settlements, see Hr'g Tr. 542:~~1213~~-544:~~2224~~ (Peterson); and
- Ø Punitive damages, see Hr'g Tr. 544:~~2325~~-547:~~35~~ (Peterson).

Dr. Peterson ultimately concluded that these factors either had no impact on his forecasts or (based upon Mr. Hanly's testimony) were already reflected in the T&N settlement history and

⁵ These factors were also raised by Judge Fullam in his opinion in In re Owens Corning, C.A. No. 04-00905, slip op. 10, Docket No. 106 (D. Del. March 31, 1005), a recent asbestos personal injury estimation proceeding in which Dr. Peterson was proffered as an estimation expert. See also Hr'g Tr. 530:~~1213~~-531:~~67~~ (Peterson). Dr. Peterson testified that the disagreement Judge Fullam expressed in his opinion regarding Dr. Peterson's Increasing Propensity projection in Owens Corning is not relevant in this proceeding. Hr'g Tr. 526:23-527:6 (Peterson). Specifically, Dr. Peterson testified that Owens Corning changed its strategy for addressing asbestos personal injury claims from aggressive litigation to a national settlement program, which Judge Fullam found resulted in a surge in the number of claims against Owens Corning. Hr'g Tr. 527:18-529:3 (Peterson). In this case, T&N never had an aggressive litigation strategy,

database and, thus, his calculations. Hr'g Tr. 537:~~14~~15-17,18, 539:~~45-7,8~~, 540:~~12-9,10~~, 542:~~45-11,12~~, 542:~~15~~16-17,19, 544:~~17~~18-19,21, 545:~~35-46~~ (Peterson).

89. To value the claims against T&N in the U.K., Dr. Peterson used the same basic methodology and calculations he used to project T&N's liability in the U.S. ~~6/16/05~~Hr'g Tr. 548:~~24-44,13~~, 558:~~12~~15-561:~~15~~ (Peterson). Because T&N was the dominant asbestos defendant in the U.K., Dr. Peterson distinguished between claims in which T&N had the sole liability for a claim and those in which the liability was shared with other defendants. ~~6/16/05~~Hr'g Tr. 550:~~34-551:14,15~~, 553:~~10-13-16~~ (Peterson). The chart below shows the average settlement values, percent of claims receiving payment, and average resolution amounts for T&N U.K. claims computed by Dr. Peterson based on T&N's historical experience:

Forecasted Average Tort Resolution Values for U.K. Claims: 1998-2001 Base Period

TN-Level	Disease	Average Settlement	Percent Paid	Average Resolution
Shared Liab	Mesothelioma	£27,950	89.384	£24,983
Shared Liab	Other Cancer	£18,729	92.593	£17,342
Shared Liab	Asbestosis	£12,357	94.703	£11,702
Shared Liab	Pleural Disease	£5,063	94.881	£4,804
T&N Only	Mesothelioma	£70,799	90.173	£63,842
T&N Only	Other Cancer	£49,174	73.077	£35,935
T&N Only	Asbestosis	£37,119	81.988	£30,433
T&N Only	Pleural Disease	£8,625	89.308	£7,703

PEX 4 at slide 49 (Peterson Demonstratives).

90. Dr. Peterson's methodology for U.K. claims also took into account that T&N had far fewer claims in the U.K. than in the U.S., stable settlement values over time, and timing differences in epidemiology and asbestos exposure. Hr'g Tr. 553:~~15~~18-554:~~7,10~~, 555:~~15~~18-25556:3 (Peterson). In addition, Dr. Peterson testified that the U.K. data did not support an

but rather had a policy to seek settlement over litigation. Hr'g Tr. 529:~~12~~13-25530:1 (Peterson);

increase in the propensity to sue. Hr’g Tr. 557:~~16~~19-~~21~~24 (Peterson). Using his standard methodology, Dr. Peterson projected a total of 21,125 future claims against T&N in the U.K. PX 4 at slide 52 (Peterson Demonstratives). Dr. Peterson estimated T&N’s liability for present and future claims in the U.K. to be £229 million (approximately \$400 million US\$) as shown on the table below. See Hr’g Tr. 561:~~25~~69 (Peterson); PEX 4 at slide 54 (Peterson Demonstratives) (reproduced below).

The Present Value of Pending and Future U.K. Claims Against T&N (millions of £s)

Claims	Disease				Total
	Meso	Othc	Asbe	Pleu	
Pending	£8	£1	£3	£2	£14
Future	£121	£8	£52	£34	£215
All Claims	£129	£9	£55	£36	£229

(3) Dr. Cantor’s Methodology is Flawed

91. As an initial matter, Dr. Cantor does not have the same high level of experience and knowledge that Dr. Peterson demonstrated in his estimation methodology and throughout his testimony. Dr. Cantor has never been recognized by a court as an expert qualified to give an opinion on the estimation of asbestos liabilities. Hr’g Tr. 856:~~24~~25- 857:~~23~~ (Cantor). In fact, prior to her engagement in this matter, Dr. Cantor had no experience in forecasting asbestos liability in a contested matter in court. Hr’g Tr. 856:~~17~~18-~~23~~24 (Cantor).

92. Dr. Cantor is not a lawyer, epidemiologist, or medical doctor – nor did she acquire personal knowledge about the legal strategies, epidemiology, or medicine involved in asbestos litigation – though she necessarily relied upon these three areas of practice in reaching her estimation. See Hr’g Tr. ~~850~~851-~~251~~112; 854:~~17~~18-~~22~~23, 856:~~7~~89 (Cantor); see generally id. at 850:~~22~~23-874:~~2~~3. With respect to asbestos litigation strategies, Dr. Cantor did

see also Hr’g Tr. 65:~~23~~35, 65:~~24~~25-66:~~23~~ (Hanly).

not meet or consult with Mr. Hanly or any other attorney who represented T&N prior to submitting her expert report in order to fully understand T&N's asbestos litigation experience in the United States. Hr'g Tr. 863:~~34~~-~~4~~5, 864:~~19~~20-866:~~5~~6 (Cantor). In fact, Dr. Cantor did not interview or consult with any plaintiffs' lawyers familiar with prosecuting asbestos claims, nor did she interview or consult with the T&N counsel who defended such claims. Hr'g Tr. 857:~~34~~-~~5~~6, 857:~~21~~22-861:~~18~~19 (Cantor). Rather, Dr. Cantor testified that her knowledge about asbestos litigation was from attending conferences and sporadically working with counsel in asbestos insurance litigation (not asbestos personal injury litigation). Hr'g Tr. 858:~~23~~-~~8~~9, 858:~~12~~13-861:~~34~~ (Cantor). With respect to epidemiology and asbestos medicine, Dr. Cantor testified that she did not talk to any doctors with experience in asbestos-related diseases, other than a toxicologist, or any medical doctors familiar with diagnosing injuries as they relate to asbestos litigation. Hr'g Tr. 866:~~6~~7- 867:~~20~~21 (Cantor).

93. The Court finds Dr. Cantor's lack of knowledge on the subject of asbestos estimation and the underlying issues of asbestos litigation, epidemiology and medicine to undermine her expert opinion. Dr. Cantor also seemed to indicate that she had insufficient time to prepare her initial expert report in this matter, which may have affected the quality of her later analysis. See Hr'g Tr. 864:~~24~~25-865:~~23~~ (Cantor).

94. Although Dr. Cantor applied a conceptually similar approach to Dr. Peterson's estimate, her methodology is flawed and downwardly biased. Dr. Cantor drastically reduces her projection of future "compensable" claims by using "death-year" years to count compensable claims filed in her four-year calibration period (1998-2001). She also excludes certain industries from her projection of future nationwide asbestos-related cancer deaths, even though T&N, either directly through its own products or its subsidiary Keasbey, exposed persons in these

industries to asbestos. See Hr’g Tr. 1101:8-1104:3 (Cantor). These two approaches, when combined, have the corresponding effect of lowering the annual projection of future cancer claims by almost 40 percent from T&N’s historical levels. There is no basis in the disease incidence or claiming history for such a reduction.

95. Instead of simply counting the number of claims filed against T&N in a particular year and then projecting that filing pattern forward as Dr. Peterson did, Dr. Cantor imputed a year of death to all the claimants in her calibration period based in part on using the claim payment date as a proxy for date of death. Dr. Cantor failed to establish a correlation between the death year and the claim payment date – particularly since the claim payment date is on average two years or more later than the date of death. Moreover, in attempting to count death years in her calibration period, she failed to make adjustments for (1) persons who have made claims against T&N, but have not yet died and (2) persons who have already died but whose claims would have been brought against T&N after 2001, which a properly constructed death-year estimate would have required her to estimate. See Hr’g Tr. 1184:16-19, 1190:5-13 (Peterson). Her use of an estimated “death year” rather than an actual “file year” ignored over 30 percent of the cancer claims actually on file against T&N and resulted in a forecast which is completely unsupported by T&N’s historical experience.

96. The illogic of Dr. Cantor’s methodology is illustrated by the vast disparity between T&N’s recent mesothelioma claims filing and resolution history and Dr. Cantor’s projections. First, Dr. Cantor does not dispute that, in the year 2001, 1,252 new mesothelioma claims were actually filed against T&N (up from an average of 900 new claims per year in 1998 to 1999). Hr’g Tr. 1109:12-1110:10 (Cantor); PEX 4 at slide 28 (Peterson Demonstratives). Nor does Dr. Cantor dispute that, regardless of which mesothelioma incidence curve is used

(Nicholson, KPMG, or the Navigant in-house model), any changes between 1998 and 2002 are minimal and each curve is “fairly flat.” Hr’g Tr. 1105:2-1108:24 (Cantor). Historically, T&N compensated about 85 to 90 percent of the mesothelioma claims filed against it, and indeed Dr. Cantor projects that over 90 percent of the pending mesothelioma claimants will be compensated. Hr’g Tr. 962. Yet her estimate of the future claims is based on a projection that only 660 “compensable” mesothelioma claims will be filed and compensated in 2002, a reduction in compensable claims filed of over 40 percent from the 2000 to 2001 claim filing levels, and that the mesothelioma filings will drop off drastically thereafter. There is simply no basis for such a reduction in mesothelioma claim filings to be found in either T&N’s claims history, the incidence of mesothelioma in the United States, or based on events which have happened in asbestos litigation since 2001.

97. Second, and more broadly, from 1995 to 2000, the number of new asbestos claims filed against T&N rose steadily from 18,000 in 1995 to 45,000 in 2000; in 2001, up to the commencement of its bankruptcy cases, asbestos personal injury claims were being filed at an annual rate of almost 60,000 a year. PEX 2 at 28 (Peterson Nov. 2004 Report); PEX 4 at slide 28 (Peterson Demonstratives). And as noted above, over its entire history, T&N paid approximately 90 percent of the 250,000 claims it resolved before it filed for bankruptcy protection. Despite this history, Dr. Cantor’s projection was that in 2002 compensable claims would immediately fall to 23,706 – only one-third of the 2001 rate and fewer than they had been in any year since 1997 – and decline steadily thereafter. DEX 2 at 39 (Cantor Supplemental Report). That notion is contrary to T&N’s claims experience, the incidence and prevalence of asbestos disease in the United States, and the testimony of the witnesses who actually defended T&N in asbestos litigation.

98. In addition, the Court also disagrees with Dr. Cantor's failure to use transitioned data – i.e., data in which claims with unspecified diseases in the T&N Databases are allocated a disease classification based on T&N's claims experience – to make inferences about the number of future claims. See Hr'g Tr. 1081:16-1082:6 (Cantor). According to Dr. Cantor, the use of the untransitioned data to determine the trends in the number of future claims shows that there is no increase in malignant claims over time and, in fact, the number of claims for some malignant categories are decreasing over time. Hr'g Tr. 1093:3-13 (Cantor). This approach ignores T&N's actual experience in the tort system, which demonstrated an increase in the number of malignant claims, and cannot provide a realistic account of what T&N's asbestos personal injury liability would have been but for the bankruptcy. See Hr'g Tr. 79:~~23~~9, 81:~~21~~22-82:~~9~~10, 139:~~17~~18-~~23~~24 (Hanly); see also 97:~~18~~19-~~24~~25 (Hanly).

99. Dr. Cantor compounds her errors by applying unrealistically low values to the claims that she projects will be compensated. For example, Dr. Cantor calculated the average settlement values in 2001 for mesothelioma to be \$102,000, but for her estimation she valued pending mesothelioma claims at \$68,866. Hr'g Tr. 1117:16-21, 1118:4-12 (Cantor). Mr. Hanly testified that T&N experienced a 75 percent increase in the value of mesothelioma claims between 2000 and 2001 and was settling such claims in 2001 for over \$130,000 each. Hr'g Tr. 81:~~21~~22-82:~~34~~34 (Hanly). Dr. Cantor's projections assumed that T&N would be able to resolve claims at prices far lower than what its most recent experience would indicate.

100. Dr. Cantor also calculated her historical settlement values based on the expense year – i.e. when a claim is paid – rather than settlement year – when the claim is settled. Although this does not cause any difference between her calculations and Dr. Peterson's for years prior to 2000, it makes a large difference in the settlement averages for 2001, after T&N

left the CCR. The Court rejects Dr. Cantor's belief that claims should be valued by reference to "four year rolling averages" computed based on when claims are paid as compared to when they are actually settled.

101. The Court also finds Dr. Cantor to be lacking in credibility on the question of whether claim filings post-2000 were going down against other defendants. In this Court, she presented data to the effect that claim filings against the Manville Trust decreased after 2000, yet at the same time she has written a report in another case (Congoleum Corp v. Ace American Insurance, Case No. MID-L-8908-1 (N.J. Super. 2005) ("**Congoleum**")) in which she presented data showing that the Manville Trust claims filings are rising steadily after the year 2000 PEX 71B (Exhibit 2 to Expert Report of Robin Cantor in Congoleum). In her Congoleum report she also presented a chart detailing numerous statements from other asbestos defendants which she said evidenced the "Widespread Recognition that Asbestos Filings Were Increasing Post-2000." PEX 71A (Exhibit 1 to Expert Report of Robin Cantor in Congoleum matter). The differences between her testimony here and her report in Congoleum are inexplicable.

102. Dr. Cantor also ignored or failed to adequately consider Union Carbide's experience after it left the CCR when assessing the impact of leaving the CCR upon T&N. Union Carbide is another asbestos defendant with extensive asbestos liabilities and which exited the CCR in 2001 at the same time T&N did. See Hr'g Tr. 1170:9-18 (Cantor). Of all the other defendants Dr. Cantor showed in her charts showing 2001-2004 claim filings against other defendants, Union Carbide was the only one that, like T&N, was a former CCR member. As Dr. Cantor acknowledged, the number of claims filed against Union Carbide and the cost to resolve those claims "skyrocketed" from 2001 to 2003. Hr'g Tr. 1172:5-13; see also id. at 1169:6-22 (Cantor). According to Union Carbide's Form 10-Ks, there were 73,806 claims filed against it in

2001, the year the CCR ended. Hr'g Tr. 1169:16-18 (Cantor). The number of claims filed against Union Carbide then escalated to 121,916 in 2002 and 122,586 in 2003. Hr'g Tr. 1169:19-22 (Cantor). With respect to resolution costs, the indemnity cost paid by Union Carbide to resolve its asbestos personal injury claims rose from \$39 million in 2001 to \$155 million in 2002 then \$293 million in 2003, and eventually reached \$300 million in 2004. See Hr'g Tr. 1168:13-24, 1170:1-8 (Cantor). Union Carbide's experience after it left the CCR is yet another reason why the Court finds that Dr. Cantor's projection that T&N's post 2001 claim filings and claim resolution costs would be significantly lower than its most recent experience as a stand-alone defendant is inconsistent with the factual record.

103. In essence, Dr. Cantor's projections are based on factual assumptions that are totally divorced from the reality that T&N found itself in when it became a stand-alone defendant again after the disbandment of the CCR. Her projected average claim values are heavily weighted towards and biased by the much lower average settlement amounts that T&N was able to achieve as a member of the CCR and ignore the testimony of Messrs. Hanly and Lynch that T&N's claims resolution costs increased rapidly as soon as T&N left the CCR. Her projection of future "compensable" claims is similarly disconnected from T&N's most recent experience and assumes that T&N could ignore claims indefinitely.

104. Indeed Dr. Cantor apparently believes T&N's future liability should be estimated based on its budgeted ability to pay claims as opposed to estimating the liability based on the claims actually filed against it, the historical percentage of claims that were compensated, and the values T&N would be paying to settle claims absent the bankruptcy filing. Hr'g Tr. 1078:13-24. Her testimony on this subject under cross-examination is illuminating:

- Q. And am I correct then that what you're saying is you can forecast the liability going forward depending upon what the defendant's budget is for paying claims in the past?
- A. It's one aspect of the information that you're using to forecast the count of compensable claims going forward, yes.
- Q. Now, if per chance the board of directors in the year 2000 decided to reduce the budget in half, would that then reduce the liability going forward?
- A. It would certainly affect the number of claims that could be compensated by the company in the year 2000 because they would have a smaller budget and, of course, that would be the count signal that we would get on their compensated claims.

Hr'g Tr. 1078:13-24 (Cantor).

105. An estimate that takes as a major component T&N's "budget" is not an estimate of the company's asbestos liability; it is rather a measure of its financial ability to pay claims, which is not relevant to an estimate of its aggregate asbestos liability. If lowering the budget could lower the consequent liability as Dr. Cantor apparently believes, no company's liability would ever exceed its assets and there would never be a need for the resort to bankruptcy.

106. The Court rejects the assumptions which underlie Dr. Cantor's estimates in this matter and instead credits the testimony of Dr. Peterson. In sum, the Court finds Dr. Peterson to be a more credible witness than Dr. Cantor. His extensive experience and methodology are more persuasive and his estimation is likely to be the most accurate. Moreover, Dr. Peterson's methodology has been applied and accepted in several legal proceedings involving debtors that, like T&N, faced many tens of thousands of asbestos personal injury claims. See, e.g., In re Babcock & Wilcox Co., Case No. 00-10992, slip op. 48, Docket No. 6133 (Bankr. E.D. La. November 9, 2004) (estimating the debtors' asbestos personal injury liability in context of

confirming plan of reorganization); In re Armstrong World Indus., Case No. 00-04471, slip op. 72-74, Docket No. 6256, (Bankr. D. Del. December 19, 2003) (performing an estimation analysis for purposes of determining whether plan was fair to unsecured creditors as compared to asbestos personal injury claimants), rev'd on other grounds, No. 00-4471, 2005 U.S. Dist. LEXIS 2810, at *1 (D. Del. Feb. 23, 2005); In re Celotex Corp., 204 B.R. 586, 595 (Bankr. M.D. Fla. 1996) (estimating debtors' asbestos personal injury liability for voting purposes); In re Eagle-Picher Indus., 189 B.R. 681, 684-86 (Bankr. S.D. Ohio 1995) (performing estimation analysis to determine proper allocation of plan funding assets as between general unsecured creditors and a personal injury trust). Given that mathematical precision is impossible, the Court agrees with Dr. Peterson's estimate of T&N's asbestos liability and concludes that T&N's asbestos liability is likely to be \$11 billion in the United States and £229 million (\$400 million) in the United Kingdom.

107. If any of the foregoing Findings of Fact is more properly characterized as a Conclusion of Law, the Court deems each such Finding of Fact a Conclusion of Law just as if it were fully set forth in the Conclusions of Law section.

II. CONCLUSIONS OF LAW

A. Governing Legal Standards

108. Section 502(c)(1) of the Bankruptcy Code provides: “[t]here *shall* be estimated for purpose of allowance under this section . . . any contingent or unliquidated claim, the fixing or liquidation of which, as the case may be, would unduly delay the administration of the case.” (emphasis added). The estimation provision thus allows, indeed requires, the Court to conduct an estimation process for unliquidated claims for which – as is certainly the case with the tens of thousands of pending asbestos personal injury claims here – the conduct of an adjudicatory

allowance process under section 502(b) would be impractical under the circumstances or would significantly and unnecessarily delay the case. See generally 4 COLLIER ON BANKR.

¶ 502.04[2], at 502-54 to 502-55 (15th ed. rev. 2004); In re Brints Cotton Mktg., Inc., 737 F.2d 1338, 1341 (5th Cir. 1984); see also In re Nova Real Estate Inv. Trust, 23 B.R. 62, 65 (Bankr. E.D. Va. 1982) (citing H.R. Rep. No. 95-595, 95th Cong., 1st Sess. 354 (1977); S. Rep. No. 95-989, 95th Cong., 2d Sess. 65 (1978)).

109. The purpose of estimating asbestos personal injury claims under section 502(c) of the Bankruptcy Code in these chapter 11 cases, as it is in all asbestos chapter 11 cases, is to enable the Court to arrive at a reasonable approximation of the value of the asbestos personal injury claims in question, so as to allow the Court to proceed to plan confirmation.

**B. Estimation Should Be Based on T&N's Claims
Resolution History, Adjusted for Trends**

110. Estimation is not an exact science. See Owens Corning v. Credit Suisse First Boston (In re Owens Corning), C.A. No. 04-00905, slip op. 9-10, Docket No. 106 (D. Del. March 31, 2005) (court preferred “to avoid mathematical calculations since mathematical precision cannot be achieved in the prediction being undertaken, it is important that we not pretend to have achieved mathematical accuracy”); In re Armstrong World Indus., Case No. 00-04471, slip op. 45, Docket No. 6256 (Bankr. D. Del. December 19, 2003) (“estimating future claims is more an imprecise art than a science, and that the best anyone can do is try to find an estimate that is not unreasonable.”); In re Federal Press Co., 116 B.R. 650, 653 (Bankr. N.D. Ind. 1989) (finding that the “estimation of a claim within the meaning of 28 U.S.C. § 157 and 11 U.S.C. § 502(c) does not require that a bankruptcy judge be ‘clairvoyant’”).

111. Rather, estimation, by definition, is an approximation and necessarily involves comparing a known or established quantum of data to the thing being estimated. See Owens

Corning v. Credit Suisse First Boston (In re Owens Corning), C.A. No. 04-00905, slip op. 10, Docket No. 106 (D. Del. March 31, 2005). The objective is to assess the “probable value” of claims. In re Federal Press Co., 116 B.R. at 653; see also Bittner v. Borne Chem. Co., 691 F.2d 134, 135 (3d Cir. 1982) (estimation requires only “sufficient evidence on which to base a reasonable estimate”). The only logical “quantum of data” from which to estimate the “probable value” of T&N’s asbestos liability is from its extensive history of dealing with similar asbestos personal injury cases in the tort system, taking into account past and future trends.

112. Numerous courts in estimating mass tort and asbestos claims have relied on estimates that include trend adjustments to the debtor’s pre-petition claims experience in the state court system. See, e.g., In re Eagle-Picher Indus., 189 B.R. at 686 (estimation based upon debtor’s pre-petition claims history “does not, however, rule out the desirability of considering trends general to the industry, particularly regarding the rate of filing of claims.”); Owens Corning v. Credit Suisse First Boston (In re Owens Corning), C.A. No. 04-00905, slip op. 10, Docket No. 106 (D. Del. March 31, 2005). In a mass tort case such as this, with tens of thousands of pending claims and a need to account for future asbestos personal injury claims, the only practical course is for estimation to be based on T&N’s extensive claims history adjusted for historical and future trends.

C. State Law Governs the Validity and Amount of a Claim

113. It is a basic principle of bankruptcy law that, for bankruptcy purposes, state law governs the validity and amount of a claim. See, e.g., Raleigh v. Ill. Dept. of Revenue, 530 U.S. 15, 20 (2000). In Raleigh, the U.S. Supreme Court held that creditors’ entitlements in bankruptcy arise from the underlying substantive law creating the debtor’s obligation, subject to

any qualifying or contrary provisions of the Bankruptcy Code. 530 U.S. at 20 (citing Butner v. U.S., 440 U.S. 48, 54 (1979)).

114. The Court of Appeals for the Third Circuit also has recognized that the existence and validity of claims in bankruptcy are dependent upon state law:

The crucial point to be made is that in the ordinary bankruptcy proceeding the great bulk of creditor claims are claims that have accrued under state law prior to bankruptcy – claims for goods sold, wages, rent, utilities and the like. ...Every such claim must be filed and its validity is subject to adjudication by the bankruptcy court. *The existence and validity of such claims recurringly depends on state law.* Hence, the bankruptcy law is constantly enmeshed in state law questions.

In re Meyertech Corp., 831 F.2d 410, 417-18 (3d Cir. 1987) (citation omitted) (emphasis added).

115. The Third Circuit also has made clear that state law is to be followed in claims estimation proceedings. See Bittner v. Borne Chem. Co., 691 F.2d 134, 136, 138 (3d Cir. 1982) (in estimating a claim, the “bankruptcy court should be guided by the applicable state law” and is “bound by the legal rules which may govern the ultimate value of the claim”).

**D. The Court’s Task is to Predict How Claims
Would Be Resolved in State Tort System**

116. In estimating personal injury claims under section 502(c), courts have attempted to predict how the case would turn out if it was litigated to conclusion in the forum in which it was pending prior to bankruptcy, using the best evidence available to it. See, e.g., In re Farley, Inc., 146 B.R. 748, 753 (Bankr. N.D. Ill. 1992) (the bankruptcy court valued the claims by multiplying the potential damages available in the state court action by the court’s estimation of the claimants’ likelihood of success at trial); In re Fed. Press Co., 116 B.R. 650, 653-54 (Bankr. N.D. Ind. 1989) (court estimated for purposes of plan voting the value of an unresolved personal injury claim pursuant to section 502(c) by reference to the nationwide average of jury verdicts in

similar cases). In order to apply state law in this estimation proceeding, it follows that this Court must seek to measure the present and future asbestos personal injury liabilities that T&N would face under the tort laws of the various states as they actually exist and as if T&N were not in bankruptcy but still in the state court tort system.

E. T&N's Future Asbestos Personal Injury Liabilities Must Be Discounted Using a "Risk-Free" Rate of Return

117. Discounting is the process by which courts take into account the time value of money. See Christopher P. Bowers, Courts, Contracts, and the Appropriate Discount Rate: A Quick Fix for the Legal Lottery, 63 U. CHI. L. REV. 1099, 1099 (1996). Both legal and financial principles demonstrate that the correct rate to employ in calculating the net present value of what T&N will have to pay to resolve its total present and future asbestos personal injury liabilities is the "risk-free" discount rate. A non "risk-free" rate is the rate at which a commercial enterprise like T&N could raise capital – a rate that implies acceptance of a degree of risk to creditors that has no place in the estimation calculation.

118. In tort cases, courts, including the United States Supreme Court, favor a discount rate that would be earned on the "best and safest investments." See, e.g., Jones & Laughlin Steel Corp. v. Pfeifer, 462 U.S. 523, 537 (1983) (claimant under the Longshoremen's and Harbor Workers' Compensation Act "is entitled to a *risk-free* stream of future income to replace his lost wages; therefore, the discount rate should *not* reflect the market's premium for investors who are willing to accept some risk of default.") (emphasis added). This Court has, in a bankruptcy context, explicitly adopted this same "risk-free" standard and use of the Treasury Bond rate. In re CM Holdings, Inc., 254 B.R. 578, 630 (D. Del. 2000) ("[T]he minimum discount rate should be the rate of interest earned on 'the best and safest investments.' The thirty-year term Treasury Bond rate qualifies as one of the best and safest investments.") (internal citations omitted).

119. This principle that a “risk-free” discount rate is the appropriate measure of the present value in a tort context has been applied to the specific question of estimation of future asbestos personal injury liabilities under section 502(c). In re Eagle-Picher Indus., 189 B.R. 681, 692 (accepting testimony of experts – including the Plaintiffs’ expert Mark Peterson – and employing rate that experts “understood . . . to approximate the current risk-free discount rate”); see also, e.g., In re Armstrong World Indus., Case No. 00-4471 (RJN), slip op. at 14-15, 72-73 (Bankr. D. Del. Dec. 19, 2003) (Newsome, J.), rev’d on other grounds, No. 00-4471, 2005 U.S. Dist. LEXIS 2810, at *1 (D. Del. Feb. 23, 2005). In adopting a 6 percent discount rate, the Eagle-Picher court rejected a 9½ to 11½ percent rate proffered by an expert called by other creditors, who based his rate on his view of where the asbestos liability stood in terms of priority within the debtor company’s capital structure. 189 B.R. at 691. The court found this expert’s rate to be “excessive” and his methodology “unsound.” Id.

120. Both experts in this case used a risk-free discount rate – Dr. Peterson used 5.02% and Dr. Cantor used 5.5%. The difference between the two is not significant.

F. U.K. Courts Will Apply U.S. Substantive Law to U.S. Claims

121. Under Federal Rule of Bankruptcy Procedure 9017, Federal Rule of Civil Procedure 44.1 (“**Rule 44.1**”) applies to cases under the Bankruptcy Code that involve determination of foreign law. Specifically, Rule 44.1 states “the court, in determining foreign law, may consider any relevant material or source, including testimony, whether or not submitted by a party or admissible under the Federal Rules of Evidence.”

122. Rule 44.1 gives courts broad authority to conduct their own research to interpret foreign law, which allows courts to rely upon materials such as submissions from the parties and

expert witnesses, as well as material that could be inadmissible at trial. Nat'l Group for Communications and Computers, Ltd. v. Lucent Tech. Int'l, Inc., 331 F. Supp. 2d. 290, 294 (D.N.J. 2004); see also Universe Sales Co. Ltd. v. Silver Castle, Ltd., 182 F.3d 1036, 1038 (9th Cir. 1999) ("Pursuant to Rule 44.1, courts may ascertain foreign law through numerous means, including expert testimony accompanied by extracts from foreign legal materials, which has been and will likely continue to be the basic mode for proving foreign law."); In re Agent Orange Prod. Liab. Litig., MDL No. 038, 04-CV-400, 2005 U.S. Dist. LEXIS 3644, *1, *11 (E.D.N.Y. March 10, 2005) ("A federal court has wide discretion to do its own research as well as rely upon experts in the somewhat similar fields of foreign or international law.").

123. Under Rule 44.1, this Court may analyze the legal questions presented, just as it would analyze unsettled questions of U.S. law, with – in the case of foreign law – the assistance of expert testimony on the trends in that law. See Karim v. Finch Shipping Co., 265 F.3d 258 (5th Cir. 2001) (affirmed the trial court's effort to determine unsettled foreign law by putting itself in the place of the foreign court). Accordingly, to determine which law will govern the valuation of claims in the Debtors' parallel insolvency proceedings in the United Kingdom, I considered evidence and analyses concerning the English choice of law principles that will be applied to the claims. Based upon this information, I conclude that for U.S. asbestos personal injury claims against T&N, it is most likely that the English courts will ultimately apply U.S. law to determine both liability and quantification of damages in this case. Of course, this is a matter for the English courts.

124. If any of the foregoing Conclusions of Law are more properly characterized as a Finding of Fact, the Court deems each such Conclusion of Law a Finding of Fact just as if it were fully set forth in the Findings of Fact section.

CONCLUSION

The Court believes and credits the fact witness testimony from Mr. Hanly and Ms. Crichton concerning T&N's litigation and settlement of asbestos personal injury claims in the United States and United Kingdom respectively. The Court also credits Mr. Hanly's testimony that T&N's liability for asbestos personal injury claims increased greatly in 2001 after it left the CCR. The Court accepts Dr. Peterson's testimony that T&N's liability for present and future asbestos personal injury claims in the United States is \$11 billion and that its liability for present and future asbestos personal injury claims in the United Kingdom is £229 million. The Court rejects the testimony of Dr. Robin Cantor.

The Court also accepts the testimony of Ms. Barbara Dohmann and finds that under U.K. choice of law principles a U.K. court would apply the law of the relevant U.S. jurisdiction to determine T&N's liability for asbestos claims asserted against it based on exposure and injury which occurred in the United States. Finally, the Court also accepts and credits the testimony of Ms. Dohmann that although the choice of law as it relates to the quantification of damages is currently in a state of transition in the United Kingdom, the House of Lords will ultimately conclude that the law of the United States should govern quantification of damages for asbestos claims asserted against T&N based on exposure and injury which occurred in the United States.

An appropriate Judgment and Order will issue.

JOSEPH H. RODRIGUEZ
U.S. District Judge

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